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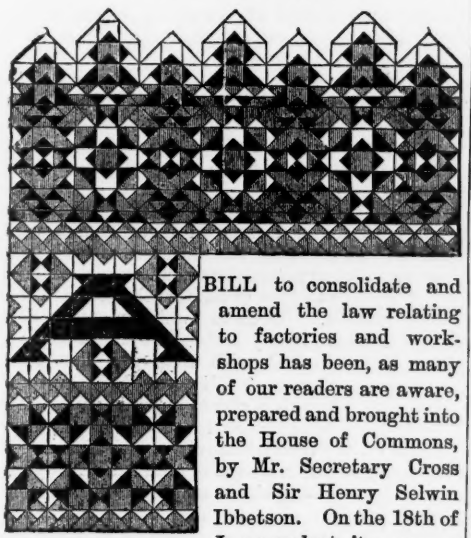
Sanitary and Social Provisions of the Factories and Workshops Bill.



A BILL to consolidate and amend the law relating to factories and workshops has been, as many of our readers are aware, prepared and brought into the House of Commons, by Mr. Secretary Cross and Sir Henry Selwin Ibbetson. On the 18th of January last it was ordered by the House to be printed. It is a serious document of 64 pages, commencing with a lucid table of contents, under the title "Arrangement of Clauses," and concluding with five schedules of special provisions, special restrictions, special exceptions, list of factories and workshops, and list of Acts repealed. These comprise no less than sixteen Acts of Parliament (from 42 Geo. III., c. 73, to 37 & 38 Vict., c. 44), of which the whole are repealed; while amendments are made to a slight extent in the Sanitary Act of 1866, the Public Health Act of 1875, and the Elementary Education Act of 1876.

An adequate discussion in committee of the 100 clauses, each of them divided in numbered paragraphs, of this important Bill, would alone demand an amount of public time which is very unlikely to be afforded during the present session, when events of so grave a character are stirring the country to its very core. But it will be unfortunate if, on this account, the Bill should fail to be considered. In the remarks which we have to offer on the subject, it will be our endeavour rather to further than to obstruct the aims of the preparers of the Bill; and the criticisms that we suggest are directed mainly to the end of simplifying what we regard as complicated, and rendering definite what is still, though unintentionally, vague.

In fact, it is clear that it is impossible efficiently to discuss in any but a very small and specially educated committee a measure of detail like the present. With all the care that presumably has been bestowed on the Bill, points come out even on a first perusal that require explanation if not modification. The introduction into a complex structure of the kind, of amendments which have been drawn up by any one who had not the whole scheme of the Bill at his fingers' ends, would almost certainly create confusion and subsequent expense. As to the chief aims of the framers of the Bill we suppose that there is little opposition likely to be made. But if ever there was a case in which it was desirable first to indicate broadly the objects sought, and then to commit to the most educated technical experts the task of framing the measure so as to carry out those objects, and to do, and to disturb, nothing else, certainly this is one of that nature.

The first part of the Bill deals with the general law relating to factories and workshops. The clauses regard (1) sanitary provisions, (2) safety, (3) employment and meals, (4) holidays, (5) education of children, (6) certificates of fitness for employment, and (7) accidents. The Bill, it may be remarked, has no preamble, and is intended to come into operation on January 1st, 1879.

The sanitary provisions proposed are, (1) that a factory and a workshop (it should have been every factory or workshop) shall be kept in a cleanly state, and free from effluvia arising from any drain, privy, or other nuisance; (2) further, it shall not be so overcrowded while work is carried on therein as to be injurious to the health of the persons employed therein, and shall be ventilated in such a manner as to render harmless, so far as practicable, all the gases, vapours, dust, or other impurities generated in the course of the manufacturing process or handicraft therein carried on, that may be injurious to health. Provision is added that if it appears to an Inspector under this Act that the above provisions are violated by nuisances not coming under the powers of the Act, he is to report to the sanitary authority of the district, which is to take action accordingly.

The first and third of these provisions appear to be simple and effective. As to the second, however, it is obvious that the door is left open for a large amount of contention and litigation, unless normal principles are laid down by the Act. What is sufficient ventilation? From 14·6 to 21·6 cubic feet of air pass through the lungs of an adult in an hour. Atmospheric air, fit for healthy respiration, contains 20·96 per cent. of oxygen. A very small reduction in the proportion of oxygen, even so little as to reduce it to 20·75 per cent., if the place is occupied with carbonic acid and exhalations from the person, is sensibly felt, and is injurious to health. In passing through the lungs, air loses from 4 to 6 per cent. of its volume of oxygen, and gains from 4 to 5 per cent. of carbonic acid. It follows that the respiration of an individual, in an hour, will vitiate from twenty to thirty times its own bulk of air. If we take the lower estimate, which is that of Mr. Huxley, of the amount of air passing through the lungs, making it 350 cubic feet per diem instead of 518, or 14·6 cubic feet, instead of 21·6 cubic feet per hour, we find the amount to be lower by one-fourth than in the latter estimate. Under any circumstances we find a vitiation of some 300 cubic feet of atmospheric air is effected, in each hour, by each individual. It is therefore necessary, when many persons are crowded together, either to provide by the lofty structure of the apartment for the inclusion of a certain quantity of air, or to provide for the regular ventilation of the room, so as to effect a certain exchange of the air vitiated by respiration for pure air.

As to this the requirements of different trades will exercise a considerable influence. A draught is hostile to some delicate procedures. When this is the case, it is plain that the room should be more lofty. Supposing each worker to occupy an area of 9 square feet, his respiration in an hour would vitiate the atmosphere of the room to the height of 11 ft. to such an extent as to require it to be changed thrice in the hour. We are not giving these data as those which should be imported into an Act of Parliament. But they ought to be considered by the framers of the Act. And not only so,—but either principles should be laid down, or leading dimensions should be stated, so as to enable an inspector to report, or a judge to decide, whether any particular factory or workshop was or was not overcrowded or insufficiently ventilated. It is clear that a room which would be healthy for a given number of workpeople would become unhealthy if the number were increased. Some definite rule or limit should be laid down in any measure which professes to deal with this subject, or it can lead only to squabbles.

With regard to safety, the object of the provisions is one in which all persons must agree. That being the case, it seems strange that the advice of some engineer accustomed to the framing of specifications was not sought, in order to supply the Legislature with a clearer and more definite clause than that which stands in the Bill. We question very much whether many magistrates would be aware of what the Legislature means by a "teagle." "Every hoist or teagle, near to which children or young persons are liable to pass, or to be employed, and every fly-wheel directly connected with steam or water or other mechanical power, whether in the engine-house or not, and every part of a steam-engine and water-wheel shall be securely fenced; and every wheel-race, not otherwise secured, shall be securely fenced close to the edge of the wheel-race; and every part of the mill gearing must be either securely fenced, or be in such position or of such construction as to be equally safe to any person employed in the factory as it would be if securely fenced." The framer of this marvellous clause seems to be unaware that a fly-wheel is a part of a steam-engine. Again, some of the most dangerous machinery used in textile processes, that which traverses a certain space, is hardly within the definitions given. As, in the matter of ventilation, the laying down of certain normal relations of numbers and of space is requisite, leaving details to be supplied, in each instance, by the inspector, so in this important, though less difficult, question of the protection of the persons employed in a factory

from being caught unawares by any part of the machinery in motion, the simple and effective plan would be to lay down the principle that the occupier of the factory should be, under the Act, responsible for such mischief, unless he could show that the portion of the machine in question was protected by such guards or fenders as should render it impossible for any one to be injured unawares unless by his own fault. The principle is all that can be laid down. The question of the efficiency of the fencing is one that can only be settled by evidence in each particular case. It would, in our opinion, have been better to admit this at once, and to have framed the Bill in accordance with that principle, rather than to revert imperfectly to the old legal method of attempting to specify every possible contingency, and to introduce into the statutes at large such terms as "teagle" and "wheel-race." Something of this kind must have occurred to the framers, or to the revisers, of the Bill, as we find at the end of the clause prescribing the notice of dangerous machinery which is to be given by the inspector, that "for the purpose of this section, and of any provisions of the Act relating thereto, machinery shall be taken to include any driving strap or band." So far, so well. But suppose the case of an unprotected wire rope, driven with considerable velocity, and communicating movement from a steam-engine, or water-motor, to agricultural or other machinery. Supposing any question of such an offence to arise, the counsel for the defendant would at once be furnished with a sufficient defence. "It is clear," he would say, "that the Legislature in its wisdom has maturely considered the subject. It has specified teagles and wheel-races as matters to be protected; and it has declared a strap or band to be machinery. But it has said nothing as to my client's works, where a wire rope is employed, and its omission so to do must be taken as purposed and conclusive." And so, we apprehend, the judges would find it to be.

Clause 7 provides for the fencing of vat-pans or other structures near which children or young persons are likely to pass or to be employed. We are not ourselves aware of the circumstances under which it is customary, or indeed possible, that "vat-pans" should be filled "with molten metal or otherwise," and can only conclude that the lawyer who drafted the clause would have been all the better for a little council from some one who knew the nature of vat-pans, and was aware of the circumstances under which vessels filled with cold, as well as with "hot liquid," ought to be prevented from becoming sources of danger to the unwary. We do not wish to be critical,—but the attempt to specify instances, when made by a person not at home in the subject, is always liable to defeat the efficacy of a new law.

With the object of the preceding clauses relating to sanitary provisions and to safety we are altogether agreed. The only question open is as to the simplest and most effective way of giving the sanction of law to the requirements of health and safety. When we come to the third head, that of "employment and meals," we are also in accord with the framers of the Bill,—with, however, a certain reserve. This reserve seems to have been shared by the framers themselves, to judge from certain clauses to which we have to refer. But there appears to us to be so much inconvenience introduced by the attempt to specify in legal terms every possible arrangement which is to be allowed, that we cannot but think that an enormous amount of time might be saved, and much future squabble and difficulty prevented, by redrawing this part of the Bill, on the principle of stating, in a few words, what it is the real purpose of the Legislature to enact.

That purpose, as regards duration of work, is simple and every way desirable. It is, however, in the eleven clauses under review, mixed up with the important sanitary question of the place for taking meals, which should have been placed among the sanitary clauses. The Legislature wishes to limit the number of hours for which children, young persons, and women may be employed in any factory or workshop. The limits fixed regard the number of hours' total work that may be performed in a year, in a week, in a day, or in an unbroken period of time. "Child," we are informed by clause 91, means a person under the age of fourteen years; "young person" means a person between the ages of fourteen and eighteen; and "woman" means a female of eighteen years and upwards. From the same clause of general definitions we also extract the two statements that "night" is used in this Bill to denote the period of time between nine o'clock p.m. and six a.m., and that mill-gearing comprehends every shaft, and every wheel, drum, or pulley by means of which the motion of the first-moving power is communicated to any machine appertaining to a manufacturing process. The clause as to the band or strap, before cited, seems thus to have been an after-thought; and the omission of ropes, chains, wires, or metallic ropes, is one which some honourable member will, no doubt, do us the favour to bring under the notice of the Committee. The employment of children under ten years old is prohibited by clause 20.

With regard to meals, it is provided by clause 17 that the times allowed for meals shall be the same for all children, young persons, and women; a clause which is probably intended to prevent any tampering with the meal hours; but which is not altogether unobjectionable. It goes on to enact that no child, young person, or woman shall be employed, or allowed to remain in any room in which any manufacturing process or handicraft is being carried on, during any part of the time allowed for meals. If the object of this clause is to prevent the meals from being taken in the work-room, it will not be attained; as, if the machinery be stopped, the clause would not prevent such a use of the room. It is, we think, very important on sanitary grounds that the work-rooms should be empty and unoccupied during meal times, and ventilation would thus be aided. But any express provision to this effect would do more harm than good unless it were accompanied by a provision that a refectory should be attached to every factory. Of the desirableness of this there can be no doubt. Whether Parliament may be disposed to insist on it is another question. But, at all events, the intent of the Act should be made plain. It would be better to allow meals in the work-rooms, openly, while the machinery was at rest, than to turn out the poor children into the street, or the draughty corridors of the factory, in bad weather. The provision of a refectory is, therefore, demanded not only on humane, but on sanitary grounds.

The times to which it is proposed to limit the legal employment of the persons protected by this Bill are as follows:—In a workshop where women, but not young persons or children, are employed, the working-hours are limited to eleven and a half for five days in the week, and to seven and a half on Saturday,—sixty-five in all. This is the essential point. The fixing the limits of employment between six a.m. and nine p.m. is a questionable mode of carrying it out, and the allowance of four hours and a half for meals out of a day of fifteen hours is hardly the best mode of attaining the object of the Bill. With regard to children, different clauses are made to apply to textile and to non-textile factories. In the former ten hours' work per day for five days, and six hours' on Saturday, making fifty-six hours' working-time per week are allowed. For non-textile factories the same limits are repeated,—the object of this apparently unmeaning complication of the Bill being apparently to provide for a stand-up fight in Committee. But the whole is given with a detail which is more perplexing than explanatory,—and by a complicated prescription of the hours of commencement, of close, and of meals, which appears to us to be highly objectionable, as interfering with the ability of the manufacturer to make the best use of his machinery.

It is very obvious to those who study the subject that the determination of the same hours for commencing and closing work all the year round is one of those matters in which Parliament defies nature. In other countries the natural length of the day, determined by the season of the year, regulates the work and the amusement and rest of the peasant as well as of the noble. It is a greater hardship to have to get up at six a.m. in winter than to rise at four a.m. in summer. The winter night commences at half-past four, the summer night four hours or four hours and a half later. If a manufacturer were inclined to take notice of this fact, by working a double set of hands in the summer, the Act would step in and forbid them. There are certain exceptions, no doubt, for which we refer to the Bill. But the great idea that it is to the advantage of the manufacturing population, as well as to that of the owners of factories, to be able to employ the largest possible number of hands to a given expenditure in machinery, is one that has not dawned on the minds of the framers of this Bill. Nothing, however, can be more undeniable as an economical truth. We therefore look with extreme jealousy on the clumsy and arbitrary appointment of fixed hours for commencing and closing labour if the hours are made the same all the year round. It is an interference with the right of the labourer. It is an interference with the right of the mill-owner; and it is brought in as a clumsy mode of doing what may be directly done with advantage, namely, limiting the working-hours, not of the factory, but of the individual factory hands.

A valuable feature of the Bill is the insisting on a certificate of fitness for employment for any persons under the age of sixteen, by the certifying surgeon of the district. Written notice of the incapacity for work of any such person is to be given to the occupier of the workshop. Certificates of birth "may be" produced to a certifying surgeon; and the inspector may annul the surgeon's certificate if he has reasonable cause to believe that the age of the person in question is less than that therein stated. Further, a new certificate must be obtained at the age of fourteen, or, as the Bill quaintly puts it, "when a child becomes a young person." These stringent provisions are calculated to do away with abuses of which the surgeons have, not without reason, complained; and so far to make inspection a reality, and not a sham.

Accidents, in conclusion of this part of the Bill, causing loss of life or bodily injury, are to be reported within forty-eight hours to the certifying surgeon of the district, who is then to investigate and report to the inspector within twenty-four hours.

Part II. of the Bill contains special provisions as to particular classes of factories and workshops. In all cases the interiors of such buildings are either to be painted and varnished within once in seven years, or lime-washed once in fourteen months. (Once in twelve months would be a better time.) Bakehouses, if painted, are to be washed with soap and hot water, and otherwise to be lime-washed, every six months. There is a clause enjoining ventilation by fans or other means in certain cases; under the head of "Special Provisions for Health" the following restrictions are enacted. No young person or child shall be employed in a part of a factory where the silvering of mirrors by the mercurial process, or the making of white lead, is carried on. No child or young female shall be employed in a part of a factory where the annealing of glass is carried on. No girl under the age of sixteen shall be employed in the making or finishing of bricks or tiles, not being ornamental tiles, or in the making of salt. No child shall be employed in a part of a factory or workshop where metal-grinding or the dipping of lucifer matches is carried on. No child under the age of eleven shall be employed in fustian-cutting.

Clause 39 prohibits the taking of meals, or remaining during meal-times in certain portions of certain factories, which are specified in Schedule No. 2; and power is given to the Secretary of State to extend the number of prohibited places.

The exceptions to the Act with regard to overtime, nightwork, domestic factories and workshops, and certain other workshops, are so numerous and minute that the reader who desires to master them must refer to the Bill. As in much recent legislation, a special directive power,—which is, in fact, an almost independent legislative power,—is given to the Secretary of State for requiring special sanitary provisions, or allowing special exceptions. A clause of this kind shows how very far from exhaustive the provisions of the Act are, and throw grave doubt on the wisdom of attempting with one hand to regulate so many minute details by discussion in a Parliamentary Committee, while on the other hand, by a stroke of the pen, any Secretary of State may alter almost any detail in its practical working. It is very possible that the entrusting of this kind of power to a high official may be better than a repeated application to Parliament for any alteration of the law. At the same time, it is right that attention should be called to a very remarkable, though silent, change which is being effected in the administration of the country. The orders of the Secretary of State are to be laid before Parliament within forty days; but their passing unnoticed is almost a matter of certainty.

The third part of the Bill relates to administration, penalties, and legal proceedings; and the fourth contains definitions, saving clauses,

limitation of the application of the Act in Scotland and Ireland; and repeal of the Acts cited in the fifth schedule. The Bill, as a whole, displays a great amount of pains, thought, and care. It is directed, in the main, to objects as to the importance of which there can be no doubt. The chief defects appear to arise from the want of that special knowledge of various details on which legislation is proposed which can only be supplied by the assistance of experts, both in mechanical knowledge and in the use of the English language. Even when it seems cumbrous and perplexed, it will probably be found capable of working, which is much to say, unless it be altered in Committee. In case of any serious discussion of that nature, we venture to hope that the suggestions above given may prove of use both to the advocates of the Bill and to the country at large.

PROFESSOR E. M. BARRY'S LECTURES AT THE ROYAL ACADEMY.*

FIFTEENTH CENTURY AND ENGLISH TRANSITIONAL ARCHITECTURE.

HAVING formerly asked you to consider and remark the processes by which English domestic architecture had developed itself, I now wish to follow up the same inquiry.

I propose now to resume the consideration of fifteenth-century architecture in England, together with the developments of later periods. In so doing, I do not think it necessary to repeat the general observations of last year, but shall rather bring before you, as well as I can, some illustrations of the principles of design, which I then described.

We shall find in our studies of domestic architecture, a steady, though gradual, transition, from the castle, as described in my last lecture. to the peaceful manor-house of the English squire. Features originally devised for defence, were clung to, as it were, with the affection which springs from use and tradition, and such details thus survived, as architectural ornaments, long after the reasons for their existence had passed away. It is ever so with architecture, an art which is, or should be, conservative in its very nature; and it is a forgetfulness of this essential principle of its existence, which leads some impatient observers to be ever asking for new methods, and new styles, in disregard of precedents and of the lessons of antiquity.

I have referred, on former occasions, to the general use of timber for dwelling-houses, particularly in towns; but we are now entering upon the consideration of a system of more solid construction. The castles, on being transformed into palaces, lost but little of their grandeur, while they gained in architectural beauty of detail. They continued to be, as of old, the central places of abode of the great lords of the soil. They could accommodate, and to some extent protect, large bodies of retainers; but the necessities of warfare were gradually passing away before the advance of civilisation and of settled order. The great English mansions thus came to assume that air of mingled dignity and homeliness which has ever been considered their most pleasing characteristic.

The walls still enclosed large spaces, and could be defended in case of need. The drawbridge was often maintained. Bastions, battlements, and machicolations were preserved, if not constructed; but the character of the buildings enclosed was greatly altered. The house and the castle are seen combined, not indeed without a certain antagonism, of which the ultimate results could already be foreseen. The old was becoming older, and verging on the obsolete; while its destined successor was steadily advancing to maturity.

We may trace this conflict of principles, very clearly, in castles like those of Kenilworth and Warwick, which contain buildings of various dates, and in which are preserved remains of the works of different builders.

At Kenilworth, the large square tower or keep declares its early origin. I have already referred, in my last lecture, to the original prevalence of this form, and to its gradual abandonment in favour of curves and circles.

Warwick Castle, built at the end of the fourteenth and the commencement of the fifteenth century, illustrates this change, for we have here the keep of a more irregular form, made up of angles and curves. The gateways, walls, turrets, and other defences, are still found, but the dwelling of the owner has a prominence altogether new, and significant. It is no longer surrounded by the walls, but actually interrupts their continuity. It now refuses to be cooped up in dull courtyards, but is built against the river, and looks over the country. The various offices and departments, which were in earlier times scattered throughout the whole of the enclosure, are brought together and aggregated in one mass, with every regard for dignity and convenience, as then understood.

From such an arrangement, it was but a step to the altogether unfortified mansion. The walls were comparatively useless, since the introduction of gunpowder, and soon became mere enclosures, to keep off robbers and pilferers; thus losing altogether their character of an integral part of the building. At the same time, the latter gained by the increased space, and spread itself out, not only in greater masses, but by including in its own construction spacious courts and quadrangles. As these changes were the results of peace and prosperity, they varied naturally according to the condition of different parts of the country. Thus, in the north, and towards the Scottish border, on the sea coast, and also on the side of Wales, we may find a system of fortification lingering, after it had become merged in more domestic construction, in other and more settled districts.

At Alnwick, for example, although the original structure received many additions, by successive owners, the military and defensive character of the whole building was consistently preserved. Not only were the moat and external defences jealously maintained, but within the walls were to be found wells, ovens, slaughter-houses, and all requisite appliances for resisting a siege.

The Peles, or tower-like houses, have been before referred to, as existing in the Border counties. They possess considerable strength, and resemble portions of the larger castles, forming a connecting link between the latter and the unfortified dwelling-houses, which in the fifteenth and succeeding centuries became common in England. Few large houses were built before the latter date, without some attempt at fortification, and such defensive works were indeed almost compulsory.

Royal licences were issued, which were, in fact, commands, in virtue of which the builders of important structures were bound to build walls of defence, and "embattle, kernel, and machecollate" the same. These documents were called "Licences to Crenellate," and Mr. Parker has published one of them, the date of which is believed to be A.D. 1483. It is a licence from "Edward, by the grace of God, King of England and France, and Lord of Ireland," to Edmund Bedingfield, esquire, of Oxburgh, in the county of Norfolk.

It is declared to be given in consideration of the latter's good and gracious services, aforetimes rendered to the king, from day to day, and "which he still continues inclined to render." He is, therefore, to be permitted "to build, make, and construct, with stone, lime, and sand, towers and walls, in and about his manour of Oxburgh," so that such manor may be enclosed, and "the walls and towers so embattled, kernelled, and machicolated, built, and constructed, to hold for himself and his heirs, for ever." A further clause declares the royal pardon for all transgressions previously committed by Mr. Bedingfield, in consideration of his building the fortifications above described, and further grants to him certain privileges as to holding markets, and taking tolls therefrom. The deed is dated from Westminster, in the twenty-second year of the reign of King Edward IV.

We may, I think, conclude from this document, that to "crenellate," or fortify, in some measure, a private dwelling-house, was at once a privilege and an obligation. It was a social distinction, marking out the house and its owner as possessing importance, and it was also apparently a matter of public policy, inasmuch as the Crown was ready to grant advantages in order to secure its accomplishment. The offer of such inducements, however, indicates that the necessity for defences was passing away, and that they had become a matter of fashion and rarity. Henceforward the disuse of fortifications was general.

Haddon Hall, in Derbyshire, so well known to most of us, well illustrates the state of transition. At a distance, it presents a castellated appearance; but on closer inspection, very little real fortification can be seen. The gateway, with its tower, is part of the fifteenth century buildings, and displays that compromise between details of defence and ornament, which was characteristic of the period. The buildings are no longer huddled together within enclosing walls and turrets, but there are two open courts, with the hall in a central position between them.

The chapel is of great antiquity, not later in parts than the twelfth century, as there are evident remains of Norman work. The building is irregular, and appears to have had an existence, independent of the castle. It is rather a nucleus, around which the latter has been built, than a private chapel belonging to the place. It may have been originally a parish church, existing from earlier times, before the adjoining structures were erected. The chancel, which was the private chapel of the house, dates from the fifteenth century.

We see in the earlier parts of Haddon Hall all the characteristics of a Transitional period, and the hall is of Perpendicular architecture. The offices attached to it are spacious, and suitable to the advancing ideas of comfort; containing store-rooms, buttery, and kitchen, with ample hospitable-looking fireplaces. In the exterior, there are still remains of the details of fortification in the "crenellated" parapets, but in the later additions to the building, domestic influences are paramount. These additions are of much later date, and have probably replaced an earlier structure on the same site.

The Elizabethan wing consists of a long gallery, as usual in such buildings, a parlour, or withdrawing-room for the family, and other reception-rooms, with a range of servants' offices below. The whole is thoroughly domestic in its character, and looks on one of the quaint gardens of the time, with the charming terrace, so often sketched by artists.

We thus find at Haddon, that which is so delightful to the archæologist, a history in stone, not spoilt or falsified by the modern restorer, although the older builders have worked their will upon the pile, and, as usual, have paid little regard to the work of their predecessors. The old Norman church is the key of the whole. It may probably have preserved an especial sanctity. Defences would thus be necessary, if only for the security of the offerings at the shrine. A stronghold would be attached, with walls of *enceinte* to enclose the church. Situated far from the border, we need not suppose the works to have been of great strength or importance, and such as they were, they might soon disappear, and their materials be used as a quarry for the succeeding buildings.

Each phase of architectural art has left its mark. There is a Norman font in the aisle of the chapel, an Early-English window in the nave, while one of the Perpendicular period adorns the chancel. The entrance gateway, the hall, and offices are of similar style, and at last we come to the purely domestic buildings of Elizabethan architecture, already described. Here we have large windows, spacious rooms, and elaborate internal decoration of oak-panelling and plaster, with wide fireplaces, and other evidences of the comfort and refinement of English home life. The type of the Mediæval fortified mansion or manor house had passed away, with the feudalism which had first given birth to it, and we may observe in these transitional mansions a striking evidence of the increase of wealth and luxury among the people, which has continued to our own time.

Having passed in review the principal distinguishing peculiarities of the Mediæval architecture of the fifteenth century, we may perhaps now turn our attention to the succeeding phases of English architecture. After the close of the fifteenth century, the forms of Mediæval art became poor and debased, the style appeared to be dying out, and a change was imminent. It came in the forms known to us as Elizabethan and Jacobean, to be shortly followed by the Renaissance and Classic Revival.

In treating of this Transitional work, it must not be supposed that the principles which guided it are only to be observed in great palaces and mansions. We naturally think first of such lordly piles as Hatfield, Hampton Court, Haddon, and the like, but it may be doubted whether the examples to be found in more humble tenements are not, at the least, of equal interest. Indeed, it is often the exuberance of ornament in the great mansions which offends an eye better pleased with the quaint though simpler treatment of the Elizabethan grange

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farm-house, or cottage. It must, I think, be admitted that the style proved itself to be equal to the demands made upon it, although with drawbacks to be presently noticed; and that, so far, it may, therefore, be held to have justified its existence.

The principal peculiarity of Elizabethan work, which distinguishes it from the Mediæval styles which it succeeded, is the admixture of classical details, with general forms of a Gothic character. Thus the gable, an essentially Gothic feature, was retained, though masked, and deprived of its importance, and broken up into forms more or less fantastic. Mullioned windows were still employed, but often in combination with pilasters, and with a complete change of mouldings.

In the interior, the hall and other arrangements of the Mediæval house were, for a long time, to be found as before; but they were supplemented by numerous additions and modifications. The latter were indeed so varied and fanciful, that it is not easy to define with precision the forms of so-called Elizabethan art, for we may find in one example a roughness and vulgarity of execution, almost deserving the title of barbarous, while in other buildings of the same style, we can detect evidences of purity of taste, together with a beauty of detail, almost equal to classical examples of good Italian work.

There is little doubt, that at this period, there was a considerable influx into England of foreign workmen. Such an influx had indeed existed, from as early a date as the Norman Conquest, but the movement had now acquired a greater importance, from the increased and increasing wealth of England, and the comparatively settled and peaceful condition of the country, as contrasted with the general state of Europe.

Although our forefathers were far from any recognition of the modern doctrine of free trade, their commerce with foreign nations was already assuming large proportions, and the merchants of London and other large towns were already both rich and influential. We have already alluded to the importation of glass from Italy, both for drinking vessels and windows, and of tapestry from Arras. Cloth was also sent from Belgium and Flanders, and the spices of Arabia and India were not wanting. With these importations came, as we may suppose, workmen, either in search of adventure or driven from their own lands (as were the Huguenots from France) by religious persecution or civil dissensions. These men brought with them the cunning of their various arts, such as stone and wood carving, and the like; and as the Classical Renaissance was more advanced on the Continent than with us, they would naturally prefer the forms of design, with which they had already become familiar, in their own country.

If we consider Inigo Jones as the first architect of note who devoted himself to Classical architecture in England, we may observe that he was born when Palladio was verging on the grave; and that St. Peter's at Rome was designed about a century before the Classical Revival in England.

The Elizabethan method indicated the first attempt at change. It was, to a great extent, a fusion between the new and the old architecture, and in that character has not, perhaps, always received the attention and consideration to which it is entitled. This neglect has probably arisen, to a great extent, from the rude execution of much of its detail, and the badness of its representations of the human figure. Nevertheless, there are numerous examples of good taste, and delicate workmanship of ornament, and if the style had lasted long enough in the ascendant, there is no apparent reason why the defects of execution should not have been rectified.

The same may be said of Elizabethan sculpture. There can be no such thing as perfect architecture, which does not include good sculpture. The Mediæval architects of the thirteenth and fourteenth centuries well understood this truth, and applied themselves to its recognition with great, though partial success. The Greeks were, as we know, the great masters of plastic art, and it may be doubted whether the satisfactory application of sculpture, in its highest development, has ever been attained, apart from Classical ideas, and principles of design.

Now, the Elizabethan architects were ready to admit these principles. They did so, indeed, to a very great extent, in their enlarged niches, their pilasters decorated with arabesques, and their employment of ornament as a surface decoration. But as to sculpture of the human form, they were altogether deficient, and their execution lagged far behind their intention.

Why was this? In the first place, theirs was an age of sudden development. Wealth and prosperity had come upon the country rapidly, or, to quote a modern saying, by "leaps and bounds." There was much work to be done, and not a corresponding number of hands to do it. Hence grand ideas, but ill-finished workmanship.

Italian artists, like John of Padua, might direct, but they were obliged to trust to German, English, and Flemish workmen to carry out their ideas. Sculpture had not flourished in its highest forms, in England, during the later phases of Mediæval art. Carved ornament was indeed prominent enough, as, for example, the ever-present roses of the Tudor period, but figure sculpture had become strained, and even grotesque. These are also the faults which strike us in Elizabethan work. We find in it much to admire, if only the execution were equal to the design. Figures, bas-reliefs, and sculptures abound, and it is not the fault of the style if they are not good. Often grotesque and eccentric, the latter has yet a picturesque striking character, and is racy of the soil.

Such as it was, the Transitional style filled up the gap between the Late Tudor of King Henry VIII., and the revived Classicalism of Charles I., and has even continued to be employed down to the present time, passing through various phases, now leaning on Gothic, now on Classical traditions; still subsisting, indeed, with certain modifications, in that which has lately been termed Queen Anne architecture.

Another circumstance to be now specially noticed, is the presence in the same building of different materials. We have seen that, roughly speaking, in early Mediæval times, the private residences were of wood, and the castles, abbeys, and churches, of stone. Not only so, but the construction was simple. Different trades, as, for example, that of the smith, might pride themselves on their technical skill; but their efforts were more or less isolated, and there was rarely to be seen that combination of labour, which some of the great Elizabethan structures exhibit. Thus, to the mason, bricklayer, and carpenter, was now added the plasterer, whose work, both on wall and ceiling, is perhaps the most interesting peculiarity of the style.

It has been too much the custom of late years to depreciate this material, a reaction springing no doubt from its great and frequent abuse. No artist, however, will I think treat plaster with contempt, who is familiar with the intricate designs, and fine and often beautiful execution, of many an Elizabethan ceiling or frieze. The use of plaster ceilings was a natural consequence of the custom, which now became common, of building houses of several stories.

From the Norman house of a single floor, with its central uncovered atrium, we have advanced to the old English mansions of Burleigh, Crewe, Hatfield, or Longleat, with their numerous chambers, arranged in several floors, and built around open courts. The Mediæval artists followed a vertical system. Arches, gables, and pinnacles were alike aspiring, and the glory of the style were the towers and spires. House building, when it became necessary to employ several floors, naturally drifted into horizontalism, and so turned towards the trabeated systems of classical art.

Ceilings of large spans, sometimes coved and groined, but often altogether flat, came into use, and the plasterer was equal to the occasion of devising ornaments, of an original and pleasing nature, for the decoration of these flat and curved surfaces. Here, as in other cases, the construction called for the ornamentation, and the latter did not dictate to the former.

There is little trace, in Elizabethan architecture, of the skill which raised the vaults and groinings, even of Tudor times. Elizabethan masonry is indeed often highly elaborate, as, for example, in the curious and ornamental scrolls, and fantastic gables and turrets, but the elaboration is, for the most part, of ornament only. The old energy of construction appears to have died away, and its place to be imperfecty supplied by applied decoration.

As the mason lost in importance, the bricklayer advanced, the two working commonly together, in the combination of red brickwork and stone, so familiar to us in almost all parts of England. When stone was abundant, it still, of course, continued to be the material most used; but in other parts, as in the Eastern countries, brick houses exist which were erected from the fifteenth century; and in the later examples, are to be found moulded bricks and terra cotta, which played an important part in certain types of Elizabethan architecture.

These details were first commonly used in the reign of King Henry VIII., although there may be occasional instances of their earlier employment. There is a good example in Sutton Place, near Guildford, built by Sir Richard Sutton, about 1530. Here the mouldings of doorways and windows are of moulded brick, or terra cotta; and surface decoration abounds, all executed in the same material, which was now extensively employed, though not often as freely, as at Sutton Place.

For chimneys, brickwork was generally used, and the stacks of massed and clustered shafts, soon became one of the most striking architectural features of the time. Springing, as they did, from domestic necessity, their importance was frankly recognised by the builders of the time. Sometimes square, sometimes circular, polygonal, or octagonal in plan, they were for the most part grouped together, and stood in continuous plinths. The capitals were, in some cases, single, and in others continuous, like the base, and they were frequently placed in internal walls.

There are numerous examples of such chimneys, familiar to most of us, in which the moulded brickwork is of the most elaborate description, like the red brick details of Hampton Court Palace. It is evident that the designers of these works delighted in the use of moulded brick, and devoted themselves heartily to its study and manufacture. The custom waned, however, until, in modern times, it seemed to have been lost, and a tax having been placed upon bricks, the usual deadening influences of such fiscal interference set in, and progress and improvement seemed to be at an end.

Happily, this state of things is over. We have free trade in bricks, as far at least as the State is concerned; and the revival of interest in brick architecture, and the increased employment of moulded brickwork, is one of the most noticeable signs of the present time. So much so indeed, that it almost seems necessary to say a word of caution to enthusiasts, to induce them to remember that the legitimate use of moulded bricks is limited, and needs both taste and judgment.

The same remark holds good with reference to terra cotta, which is indeed only another form of brickwork. Valuable as this material is, and readily as it will lend itself to artistic treatment, it cannot compete with masonry as regards solidity, or truth of line. It was only occasionally used by the Elizabethan builders, excepting for such ornamental and isolated structures as chimney shafts.

In cases where stone was not easily attainable, the walls were built of brick, frequently of red colour, with dressings of stone, the mullions of the windows, the string-courses, parapets and copings being constructed of the same material. The bricks were usually of smaller size than our regulation dimensions. They were not very regular in shape, and consequently the joints were large, with a good deal of mortar; but as the latter was usually good, the walls were not destitute of solidity and strength.

The bricklayers seem to have thought that the surface of their work needed ornament, for they were fond of using a few black bricks, with those of other colours. The latter were disposed so as to give the well-known diagonal patterns in the brick walls of their buildings. This treatment is undoubtedly pleasing, when not used in excess. It breaks the effect of monotony, which too much plain surface is apt to produce. It is unobtrusive; and while it is an evidence of thought and care on the part of the builders, it does not, when sparingly employed, challenge attention or arrest the eye by startling contrast.

In some of our recent revivals, the use of parti-coloured brickwork has been common. It has respectable precedents in its favour, *only when used in moderation*. An idea, good in itself, is easily overdone, and the great danger which waits on imitators is exaggeration. It is thus with the use of the coloured lines, diapers, and patterns, which we so often see used in edifices of moderate dimensions, which cannot afford to trifle with the element of size. The effect of such a treatment is too often to minimise the building, and to weary the eye with a succession of tiresome and uninteresting geo-

metrical puzzles. I would therefore caution the student against a too ready indulgence in this cheap decoration, and would counsel him to devote his first care to the design of the masses and proportions of his work. The introduction of coloured brickwork into Elizabethan buildings is seldom liable to such objections as I have named, and with due restraint it is a fair expedient in the hands of the architect.

Perhaps the most noticeable development of the period we are now discussing, is the treatment of the windows. From the few and scanty loopholes of the castle, we have advanced to a perfect blaze of light, and walls almost made of windows, as at Hardwick Hall, Derbyshire. Oriel windows had long existed, particularly in connexion with the dining-halls, as I have described in a previous lecture. They were, however, commonly used where special dignity or importance was sought. We now find oriel and bay windows adopted with the greatest freedom, so that they may almost be said to be inseparably connected with Elizabethan domestic work. We have projecting windows of all kinds of design, with canted sides, square sides, curved sides, and even semicircular in plan. They are usually built up from the ground, although the use of corbels was still frequent. From being a subordinate feature, the windows now challenge attention, and dominate the gables and other parts of the elevation. Not only are they wide, and ample on plan, but they are of such height that they need to be divided by horizontal transoms, several of which are often to be seen in the same window.

The change from mediæval economy to Elizabethan exuberance in the matter of windows is very remarkable. It was foreshadowed in the works of the Tudor period, and even church architecture shared in the movement. The great east window of Gloucester Cathedral is an instance of daring, I had almost said reckless extravagance, of fenestration.

The Elizabethan builders went, however, as a rule, beyond their Tudor predecessors in this respect. They widened the bays, and increased their projection, they lengthened the lights, discarding tracery, and even the flat four-centred arch which so long lingered, as a relic of mediæval forms. Their windows were, as a rule, made up of rectangular divisions; and arches, which had now become semicircular, were reserved for doorways.

We may still trace a disposition to coquet, as it were, with Gothic details, particularly where ecclesiastical feeling was in any way regarded. Thus, at Crewe Hall, where all the windows of the rooms are square in their form, there is one exception to the general rule. This is in the chapel, where the window, which is semicircular on plan, has curved heads with cusps set in a square, in the later Mediæval manner. This circumstance is the more remarkable, as the whole building was erected at the same time,—from 1615 to 1636.

It is evident that glass must have become cheaper and easier to procure, before such windows as those of the Elizabethan era could be planned and executed. This was doubtless the case, being one of the results of the advance of the country in wealth and commerce. It was not very long since that glass windows were luxuries, carried about from place to place by the great lords, on their journeys to their various country seats or town palaces. Windows were holes in the walls, to be closed by wooden shutters, and, therefore, not to be lavishly employed. Now, we find enormous surfaces of glass, with little attention to shutters or other means of security. Not only was glass readily attainable, but men were able to think more of the comfort, and less of the defensive security, of their residences.

In early examples, and in exceptional cases, we still find evidences of a certain distrust in the height of the cills above the floors, so that it is difficult, and in some instances impossible, for the inmates to look out of the windows. In almost all cases, indeed, the window-cills are higher than modern ideas approve. This is, however, in all probability, often a mere question of taste. Our forefathers do not seem to have attached the same importance to the enjoyment of a view of fine scenery as we do, nor were they fond of living on the ground floor. The chief room of the Elizabethan residences was the long gallery, an upstairs apartment, usually extending the whole length of the house. The great reception-rooms, excepting the dining-hall, were also frequently placed upstairs, and under these circumstances a good view of the surrounding country could be readily obtained.

A low window-cill is a feature common in southern countries, and connected with the frequency of balconies. It has never been a favourite in England, as it is, for example, in France, where it is the custom to carry down the windows, in almost all cases, to within a short distance of the floor. In genial climates the architects were ever eager to use the balcony as one of the most obvious means of producing effect within their reach; but in English domestic work it was, as a rule, forbidden by the exigencies of the climate, and the feature is not commonly to be seen in our old architecture.

Another peculiarity to be noticed is the irregular, and often fantastic, shape of the gables. The principles of design now in vogue had become so much influenced by classical ideas, that the verticality of former days was out of date, and a more horizontal treatment was everywhere apparent. In houses of several stories the floors asserted themselves, even externally. Buildings were crowned with cornices and parapets, while roofs of moderate pitch and span replaced the high coverings of earlier times. The gable thus lost a great part of its original importance. It was not by any means, however, discarded, and, in some cases, even seemed to be regarded with special favour, from the care given to the design of the varied outlines which had come into favour.

With simplicity of form, the real importance of the gable had very much passed away. It had become, as it were, a plaything, to be used as an ornament behind projecting windows. It was frequently cut off from below by cornices and parapets, and so recessed as to lose any great amount of dignity. For farm-buildings and structures of moderate pretensions the gable still kept much of its old prominence; but in mansions, such as Crewe Hall, it had become a minor detail in the composition; while at Longleat, and still more at Wollaton, it was only represented by scrolls and ornaments, recalling, in an indirect manner, its former outline.

A similar declension may be observed in the importance of towers. At Wollaton, indeed, the tradition of the old keep of the castle survives in the elevated mass of the central hall. The Elizabethan was not, however, a tower-building style. Turrets, indeed, abound, but they are seldom of much structural importance. Attached to gateways, and flanking entrances, they served to keep up a certain stateliness, and preserved the traditions of earlier days. The high spire-like tops had gone, with their stone finials and crockets, and the favourite mode of finishing the turrets was now a depressed form of ogee, commonly made of wood, and covered with lead. In the times of castle building, the tower was the house, now the house was everything, and turrets were only ornamental portions of the latter.

The skyline was broken by chimney-shafts, arranged, as has been said, in groups, or in lines, and their number and importance were significant of the increase of domestic comfort now sought for, in the internal arrangements of the house. The fireplaces had become the most conspicuous feature of the living-rooms. They are often massive structures, extending to the ceiling, and ornamented with rich panelling, niches, and sculpture. They illustrate very clearly the transition that was in progress, and the taste that was springing up for Italian detail and style.

The earlier examples of Elizabethan fireplaces have projecting hoods, and follow the ancient manner of construction, which was pointed out to you in our examination of the works of the thirteenth and fourteenth centuries. Gradually departing from this type, we come to designs of a less prominent character as regards shape, and more decorated in detail. Chimney-pieces were important architectural compositions, built against the side of the room, and forming its chief ornament. They were usually divided into two parts, and the rudiments of the window-shelf began to appear, though the time of nick-nacks was not yet. The material was usually stone, and this was sometimes employed for the whole structure, though, more commonly, the upper part of the composition was made of wood, and even of plaster.

The amount of woodwork in Elizabethan houses was very great. Panelling was not only plentifully used for window and door dressings, but it also extended from floor to ceiling, in the galleries and principal rooms. The staircases also were often masterpieces of the carpenter's art. The panels were designed with numerous mouldings, of shallow section, often roughly worked. In the best examples the mouldings were worked on the solid rails, and in the earlier work were combined with chamfered top and bottom rails, in accordance with the custom of Mediæval workmen.

The wood used was generally oak, and the grain or pattern upon it is very distinct and far more beautiful than we can generally obtain in the oak and wainscot of modern commerce. Our forefathers grew, and worked, their own timber, and were better able than we often are to refuse the bad, and select the good. Modern possessors of old English mansions have often complained of the abundance of oak panelling. It has grown dark and almost black with age, and thus has given the apartments a sombre appearance, and has caused difficulties in lighting it, especially at night. Of late years we have seen a great movement of restoration, which has in many cases taken the form of undoing previous mischief, and numberless have been the cases where the old oak panelling has been found concealed under coats of white paint and paperhanging.

The early habits of our forefathers led them to think little of lighting their rooms at night, and with gas and other illuminating agencies at our disposal, there need be no reason for us to deny ourselves the pleasure of restoring their work to its original beauty.

And now I must, for the present, bring the description of the Transitional style before us to a close. Having described some of its peculiarities, we will, on another occasion, examine some existing examples of this manner of work more in detail. As regards the style itself, it is impossible to claim for it a high artistic position, at least as it was worked out by the Elizabethan architects. At the same time, it may be doubted, as I have before said, whether full justice has been done to its merits, and more particularly to its possibilities.

The buildings which were erected in the Elizabethan style, have qualities not without claims on our approval. There was evident in them, in the first place, a care for architectural effect; the construction was generally sound and truthful; and whether the building were a palace, as at Hatfield or Burleigh, or a farm-house, or a plain yeoman's dwelling, there was an appropriateness in the design which rarely fails to please. If we are sometimes offended by clumsily-executed mouldings, or by the intrusion of discordant forms, we must remember that their designers were feeling their way, and that but for circumstances, hereafter to be noticed, they might, if left alone, have achieved something purer and better.

Some modifications of architecture were imperatively called for by social changes, and these were sought in the direction of greater elasticity. The methods adopted, whatever their faults, not only answered their purpose, but were perhaps more distinctively English than any of those which preceded them, or by which they have been followed.

The English Transitional style had thus a strongly marked and national character. If it had not the grandness of the Italian, it was better adapted to English wants, tastes, and the requirements of the climate. If it missed the picturesqueness of the French, with its affluence of dormers, balconies, and turrets, it had, nevertheless, a local colour and effectiveness of its own, suiting well the parks, dales, and valleys of English counties. It spoke of home life, with all its softening associations, and even where it displayed the grandeur of wealth and rank, it did so in such a manner as to indicate the position of a landlord living at peace among his tenantry, rather than that of a feudal chief, cherishing exclusive privileges, and obliged to be ready, at any time, to defend the same, and subjugate the people beneath, rather than around him.

The mansions of Old England were thus houses, and not castles, and they remain to us in great numbers, in all their beauty, while many a prouder structure abroad has disappeared by incendiary fires, or has been laid waste by civil violence.

In the works of the Elizabethan period in this country, we may, I think, see traces everywhere of that measured and gradual advance in civilisation and comfort, as well as of the respect for law and order which has prevailed, more or less, in our fortunate land, through the most troubled times, and which has consequently and appropriately found expression in Transitional English architecture.

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AMERICAN WATER-COLOUR ART.

The American Water-Colour Society, on the evening of the 1st of this month, held its eleventh annual private view, a private view whereat attended some three or four hundred artists, and a few members of the press; for here, as in London and Paris, artists of all kinds appear to love the agreeable pleasure of courting friendly encomium, and those instructive directors of our tastes, the critics, are only too good-natured in gratifying their friends. Here they were all the other evening, artists, critics, frame-makers, purchasers, and all those useful people who join in building up our taste in art.

Before the week is over, those happy artists whose captivating talents are sufficiently attractive to call for learned criticism from our overworked and *blasés* critics, may expect to read how they have this year surpassed their last year's productions, and what justification for hope the nation may have that American painters may shortly defy the world in the silent pursuit of the studio, as they are so successfully doing in the more noisy and less innocent career of popular government.

There is one feature in New York private views, one great claim we may say, that is wanting so far as our experience goes in English and French private views: a well-arranged and a well-served *buffet*, really artfully supplied with precisely the needed pabulum that few of us can resist after eleven p.m. Nothing that we have seen for many a day can compare with the entertainment supplied at the American Water-Colour Exhibition.

The eleventh Water-Colour Exhibition in New York, we have been told, is an advance on last year's, which we are also informed was an advance on former displays, so that the 569 works this year exhibited may without injustice be alluded to as falling some degree short of perfection. We do not like the French word "*genre*," but it is so well understood now that we are at a loss for a better; this style has gained but an uncertain footing among American painters, and those who affect water-colours, judging by their works in the present exhibition, have done very little to vindicate their claim to rank as masters. Poverty of design or motive, feebleness of composition and want of truthfulness in detail, characterise most of the "*genre*" drawings now on view in the Academy of Design; the work is often so trivial as to induce the belief that not only is no improvement possible, but that the artists must in time deteriorate from their present low standard. Unwelcome as the statement may be, candour compels us to say that nearly all the good "*genre*" pictures in the Exhibition (and none of them are of superlative excellence) are the production of foreign artists. A want of what artists understand by "breadth" is painfully observable in all that is here exhibited, and if the American water-colour painter expects by minute and painfully-realistic transcripts of natural objects to make up for this great deficiency, he will find himself mistaken. Skilful painters have outgrown the pre-Raffaellite period (in France and Belgium those great schools of water-colour art, it never had any influence), and all those who seek for what is right now in water-colour, desire to see representations, broadly and effectively produced, rather than that prosaic accuracy which so many are wedded to.

There are, however, in this exhibition some drawings by native artists, notably landscapes of New England and Eastern coast scenery, amply sufficient to satisfy us that American water-colour painters, like American sculptors and etchers, are, in not a few instances, as devoted students and faithful producers as the gifted workers of any other country.

The regular picture exhibition season in New York appears to commence somewhat earlier than in Paris or London. In Paris the *cercle* of the Place Vendôme, or that of the Rue St. Arnaud, do not generally begin to show their fresh art-treasures until the spring; but here, the Century, the Union League, and several other clubs, have been making monthly displays since last October, and, indeed, for the last three months there has been a succession of picture-shows at one or another of the "art-rooms" that abound in the neighbourhood of Union-square and Fifth-avenue.

Certainly New York affords to the mere lover of pictures for the innocent amusement they give, a sufficiently ample field for mild enjoyment; any day throughout the year, in the galleries of Messrs. Goupil or Schaus, may be found gathered together in some form or other whatever is new or costly in the way of pictorial art from Europe; and if New York cannot exactly claim the power to support an establishment like Colnaghi's or Graves's, of London, or Rapilly's or Danlos fils, of Paris, they may boast at least more than one art-shop that fairly rivals the best of the more showy exhibition places of Europe.

New York has not a Christie & Manson, nor a M. Pillet, of the Hôtel Drouot, but the many famous auctioneers of this city, who might, if we may venture to suggest, take some admirable lessons from those truthful disposers of interesting property, contrive to offer week after week an enormous mass of attractive artistic finery that meets here just now with an unwilling and cautious number of buyers, who one would think were deterred from purchasing, by an unaccountably acquired knowledge of the worthlessness of the objects placed before them. As for that industrious class of speculative collectors, who furnish the sale-rooms of the New World with miscellaneous objects for use and foolish ornament, we can only say, the sooner they give up their unremunerative trade, and take to the business of taking care of what is worthy of being preserved, we shall all be gainers in the end.

New York.

ART BOOKS AND CATALOGUES.

It may not perchance have struck many even of those who have thought of what books and newspapers now do, how vast is the influence they have on human destiny. They seem all but to form a sort of second thinking population, and to have a kind of existence of their own. The very dead speak still in books, and we may hear in them the voices of those who once on a time lived in such now dead cities as antique Athens, and Rome, and Jerusalem. All this, though so trite, is sufficiently astonishing, though perchance so little thought of, from the fact of its very familiarity. It would be sufficiently wonderful if but one single volume, or "voice" could be heard as coming from the age of Pericles and Phidias, or from that of Cæsar and Cicero, or were there now but one general London newspaper telling of all that happened, all the world over, *yesterday*. But what is to be said when we come to numbers all but countless of books, and records of the most distant past, as of the actual present, for while an event is actually occurring, an account and record of it are in course of being printed! Books are now to be numbered not by units, but by thousands, and by tens of thousands, and hundreds of thousands,—there is no end of them. And as if this were not enough, the very catalogues of them,—book catalogues,—alone would form a library if collected together, and would be a study in themselves.

Book cataloguing, indeed,—and the work, by the way, but has just commenced,—forms in itself a right curious subject of inquiry and research. Go into the library of the British Museum, and you find immediately before you not fewer than 1,000 volumes of the catalogue of the contents of its huge collation of books. So far from this being a completed work, it is but the very roughest commencement of what there is yet to do, and which will be, there is no doubt, in the future done. And not only has the great national museum its special catalogue and catalogues, but most other libraries of note, both small and great, have theirs; and the booksellers, too, all about us, have theirs as well,—huge volumes enough, some of them, as many well know, such as that bulky *tome* of Mr. Bohn's containing a list of books which a lifetime could not read through. But, still, all this even is but rough and very imperfect work, for these voluminous catalogues are a perfect puzzle even to those who devote themselves,—unhappily, we fear, in many cases,—to *books*, and books only, and all but forget the *objects* about which the very volumes are written. But there is no escaping from books and printed matter, and the very word education, as it is now understood, would all but disappear were *book* learning eliminated.

To commence on Mr. Quaritch's catalogue, mentioned the other day, is a difficult task, for every page of an art-catalogue is full of suggestive matter, and names which in many cases have been held but in feeble remembrance, though worth more of lasting fame. We must needs pass them by in our hurried survey and rapid turning over of leaves. There are here Cruikshank's illustrations, of which it can be only necessary to remind the reader, and to remember the venerable artist for what he has done for the world of art. There are here Albert Dürer's works, on copper and steel, and some fine photographs of his woodcuts. Dürer was a great artist, all ways; for, as a German, he worked in a true German way, and worked, too, with his own hand, so that we see the artist workman truly typified; we see the *hand-writing* of the man visibly before us; we see the extent of his art-power, what he could do and what he could not do. This you can never do in copies, however able they may be, and however carefully and conscientiously executed. It would be well specially to note in such class catalogues the books which contain such autographic work, and to point out its special significance. A volume thus illustrated by the very hand of the artist himself, the joint production of his head and hand, is beyond price, and has more effect on the mind of the student of art than can be well estimated, the student himself being, may be, almost unconscious of its influence. But it is not the less real on that account.

We are confining ourselves to drawings, prints, and engravings, in the hope of being able to return to this suggestive list of fine-art specialities, and gorgeous books, and folio volumes of rare artistic work. We have a suggestive note here of Mr. Ruskin's art labours, and wonder a little at the power over the art-mind of "collectors," of rare things and of proof impressions of plates; for the cost of a first edition of "Modern Painters" is somewhat startling. Vol. I. would seem, indeed, to be fitted only,—as our catalogue says,—"for a fastidious collector." We cannot say that we much envy fastidious collectors. A few only of the plates in these books of Ruskin's are by his own hand, be it noticed; and copies, be it again noted, are not like original and autographic work, especially here. The "Examples of the Architecture of Venice," selected, and drawn, and measured from the buildings themselves, and of which two parts only have been published, are to be seen. No text appeared with the second part. "The Stones of Venice," and the "Seven Lamps," and "Fors," are all here; and even more than these, perhaps. There is Turner's great autograph,—the "Liber Studiorum,"—an early copy; landscapes, marine views, and rural and mountain scenery. It would be hard to make a selection: all and each of the plates telling a story. The cost of the complete set of volumes is high. Ought not, we may ask, a complete series of these magnificent drawings and interpretations of Nature to form a part of the National Picture Gallery?

There are here, too, works of Holbein, Hogarth, and Flaxman, with many others, and Michel-angelo, whom we must needs leave for a more special opportunity; for, truth to say, these *copied* and engraved works do but very scant justice to the gigantic powers of the great artist, and yet have the *fac-similes* of J. Linnell of the designs of the artist for the Sistine ceiling no small merit, and are worth attentive looking at. We must note some books, careful as they are, and to which students owe so much, such as Ottley's "Italian and Florentine Schools of Design"; and his collection of 129 *fac-similes* of prints by the early masters of the Italian, German, and Flemish schools. Then there are four or five pages devoted to Piranesi's works, so well known to art students, and full of so much that all must now miss. It would be curious to inquire how this is, and how it is that there is a special interest in these drawings and engravings, of views of architecture not now to be come at. The "Antichita Romane," architectural details, baths, aqueducts, sepulchral monuments, as here and elsewhere shown, possess a peculiar charm which it would be difficult to describe, or to accurately define. How is this? We might go on to almost any length, and wonder at the things that have been done so long before the world had arrived at its present high state of culture and power of mechanism!

But there is very much more than would seem likely at first sight in a catalogue of art-books, and especially in a class catalogue like that to which we are now more especially referring in this new catalogue of unique volumes. The very headings to the several sections are suggestive, indeed, of difficulties, and questions, and thoughts of past and present, if not of future art, without

number. The history, or rather histories of fine art, what do they not suggest? Not that the history of art has been as yet thoroughly written, but that the way to it is before us. Under this general heading we have books of prints, and which, indeed, form a history of art in themselves. The strange fancies of William Blake, of the date of 1794, evidencing to those who do not perhaps see quite clearly what the imaginative power in the mind of man will sometimes do; they may here find it fully and uniquely represented and exemplified. Would it not, we may here in passing ask, be a good thing to set apart a room in the National Gallery, even as it is, for the express purpose of exhibiting a selection of such works as these, either on the walls of it, or on tables, in well and strongly bound volumes. This very book, Blake's "Songs of Experience," might well and worthily find a first place. Virgil's "Pastorals," again, find illustration by this weird artist, aided by Cruikshank and Bewick. These are really historical, and typify the time. If, perchance, those in the future who are to follow us are curious to know what the art of the age was, it must be from such work as this.

It is impossible in so short a notice to do more than indicate a few of the great names in art, when there are so many of them. In a class catalogue, as here—(which, by the way, might be very much improved, and rendered much easier of reference, for there is no adequate alphabetical index to names or subject matters),—it is difficult at times to determine which is most important to find first, the artist or his work, and we look for the one to find the other. Here, not to attempt a long list of names, we have a series of subject matters and details which may well fill the mind of the most enthusiastic and industrious with dismay. We take them as in the catalogue at random,—arms and armour, costume, "emblems," engravings, furniture, gems, picture and art galleries, mosaic ornament, a somewhat too indefinite word,—monuments, "pageants," a very curiously illustrated subject, and once on a time the cause and foundation of so much that is artistic and noteworthy, and inclusive of so many things. Painters, portraits, sculpture, tapestry, with other items artistic; and last, but not least, architecture, in all its phases, and from all the four quarters of the globe, and from all times, and illustrated in all ways from the most rapid sketching, as in Digby Wyatt's books, to Penrose's "Geometry" of the Parthenon. If *books* can do the work of modern art progress, why here may be found the way to it. We hope Mr. Quaritch will add to his industriously-composed catalogue an *alphabetical* guide to it.

"SOUTH AFRICA."

THE book before us with this title* is the result, as we learn from the preface, of a long-formed intention on the part of an eminent novelist to "do" South Africa. Mr. Trollope, in the intervals of his remarkable and voluminous labours as a writer of fiction, has found time to "do" most of the colonies; and perhaps this expression (which he himself uses of his work) is tolerably characteristic of the manner and type of book which he has produced in regard to this and other localities he has visited, and of the nature of the interest which may be looked for in reading it. We all know that works which are really reliable and accurate in information as to the history and the social and political conditions of a neighbourhood are not to be produced on the basis of the notes of a hurried visit; and the author himself seems to imply, from his method of speaking of his labours, that this kind of historical and statistical value is not what he professes to claim for his pages. On the other hand, those who know Mr. Trollope's other publications of this kind will expect to find, what in its own way is equally valuable, a spirited and vivid impression of the nature of the country and the ways of its people, and a quick perception in regard to the bearing of isolated facts and anecdotes upon general theories as to the present and future of the country.

In this respect Mr. Trollope's book on South Africa is in no way inferior to its predecessors of the same class. What may be called the historical and political portions of the book are those into which we could hardly undertake to enter here, as they will not bear brief or superficial treatment, and anything beyond that would carry us too far out of the proper range of our columns. We may observe that the book gives a sketch of the early Dutch history of the colony, and of the entry of England upon the scene; and the author then proceeds to a description of his impressions and observations on the South Africa of the present day, starting from Cape Town and proceeding through Natal, the Transvaal, Griqualand, the Orange Free State, and the native territory. There is one important subject partaking both of social and political interest, in regard to which Mr. Trollope has a good deal to say that is very much to the point,—the relation of the white to the coloured population; a matter on which he seems to have been, throughout his short tour, specially desirous of gaining knowledge and forming conclusions: and his conclusions seem to be not different from those which have been formed in other similar cases where the white and coloured races have been brought into close proximity, as in India.

Granting, as he says in his introductory chapter, that compulsory labour, in which the wages are settled by the employer without consulting the employed, is only a form of slavery, and to be condemned, the more we do, short of compulsion, to bring the coloured man into harness and habituate him to regular work, the better for himself and for the colony. "A little garden, a wretched hut, and a great many hymns, do not seem to me to bring the man any nearer to civilisation: work alone will civilise him; and his incentive to work should be, and is, the desire to procure those good things which he sees to be in the enjoyment of white men around him. He is quite alive to this desire, and is led into new habits by good eating, good clothes, even by finery and luxuries, much quicker than by hymns and gardens supposed to be just sufficient to maintain an innocent existence." In regard to this point there seems to be just the difficulty felt with the Kafirs which has been felt with the freed slaves in the United States. They are apt to be so easily contented and so little ambitious, and can live on so little, that there is great difficulty in inducing them to labour, or to think that labour would be good for them. To bring the white and coloured races closer together in their associations and habits of life will be, as Mr. Trollope says, a gradual remedy for this state of things; and it should seem that the difficulty in accomplishing this is not all on the side of the natives. He observes, for instance, that in the Cape Colony the white labourer will not work on equal terms with the Kafir; he expects to be "boss," or master; he will lay bricks when they are brought for him by a black hodman, but he will not lay a brick at one end of the wall while a Kafir is laying an equal brick at the other end. Here, again, we have the United States difficulty as to the social recognition of the freed black over again. Yet the possibility of getting the Kafir to regular work in a systematic manner is shown in such a case as that of the Kimberley diamond mines in Griqualand, where the annual amount of wages, paid almost entirely into the hands of Kafir labourers, has varied from 600,000*l.* to 1,600,000*l.* in recent years. As a comment on this, we subjoin the description of leaving work at the Kimberley mine, which affords a good specimen of the kind of interest in which Mr. Trollope's book abounds:—

"Perhaps the most interesting sight at the mine is the escaping of the men from their labour at six o'clock. Then, at the sound of some welcomed gong, they begin to swarm up the sides close at each other's heels, apparently altogether indifferent as to whether there be a path or no. They come as flies come up a wall, only capering as flies never caper, and shouting as they come. In endless strings, as ants follow each other, they move, passing along ways which seem to offer no hold for the human foot. Then it is that one can best observe their costume, in which a jacket is never absent, but in which a pair of trousers rarely forms a portion. A soldier's red jacket or a sailor's blue jacket has more charms than any other vestment. They seem always to be good-humoured, always well-behaved; but then they are always thieves; and yet how grand a thing it is that so large a number of these men should have been brought, in so short a space of time, to the habit of receiving wages, and to the capacity of bargaining as to the wages for which they will work. I shall not, however, think it so grand a thing if any one addresses them as the free and independent electors of Kimberley before they have got trousers to cover their nakedness.

I must add, also, that a visitor to Kimberley should, if possible, take an opportunity of looking down upon the mine by moonlight. It is a weird and wonderful sight, and may almost be called sublime in its peculiar strangeness."

The difficulty about work seems to be even greater with the Zulu than with the Kafir, and the farmers in Natal consider it very hard that, with 300,000 of a labouring class around them, the 20,000 white "capitalists in a small way" should be short of labour. Of course, as Mr. Trollope observes, it does not occur to the Natal farmer that if the Zulu has enough to live on without working he should be as free to enjoy himself in idleness as an English lord. The point to be aimed at, again, is the same as in the case of the Kafirs,—to bring the two classes of population into such close relations that the less civilised race should acquire the tastes and ambitions of the more civilised, when they will also find the necessity of entering into the labours of the latter.

Among the interesting and striking portions of the book may be named the description of the remarkable stalactite caves called the Cango Grottos, and the wonderful effects seen in them by the aid of blue-lights. Of more practical interest is the account given of ostrich-farming, near Grahamstown, in Cape Colony. This is a line of industry (or agriculture, are we to say?) quite out of the experience of most English readers. The feathers are, of course, the object of culture, and each bird gives two "crops" of these annually, the value of a year's feathers being somewhere about 15*l.* per bird. As the birds require no expensive feeding (though not so omnivorous as used to be popularly supposed), the ostrich-farm is on the whole a paying thing; but it has to be carried out on scientific principles, and generally with the aid of mechanical incubators for hatching, as the birds injure their feathers in sitting. The method of reaping (if we may use the word) the feathers is curious, and seems not very kind to the birds. They are enticed by maize, which they are very fond of (and which we may suggest is *not* spelt "maze"; perhaps a misprint), into a pen, one side of which is movable; and when a sufficient number of birds are in, the side of the pen is moved up, on the principle of the crushing-room which is said to have been in use in the Middle Ages, till the birds are so closely packed that they cannot spread their wings or kick, when a man goes in and plucks or cuts the feathers from the under side of the wings; the plucking being preferred by the owners, as getting a better weight of feather, and inducing a quicker growth of the new feather, than cutting: how the birds look on it we cannot tell, but Mr. Trollope was assured that they took so little notice of the operation that it could not be supposed to cause them any particular pain. We do not ourselves understand how the operator gets among the birds if they are so closely packed as described; but that, of course, is his concern.

There are some interesting remarks as to the difficulties in road-making in Natal; the roads close to and even in the towns being often so bad "that it is felt to be almost rude to allude to them specially;" and some of the good ones that have been made have cost, through inexperience or official peculation, most disproportionate sums. In regard to Maritzburg, the principal town of Natal, of which Mr. Trollope does not say much in the way of description, it may interest our readers if we mention, of our own knowledge, that the water-supply question is just arising there, and judging from a lively correspondence in the columns of the *Natal Witness*, seems likely to become a question of municipal contention. It seems that the water for drinking is simply taken up out of open gutters called "sluits" which run through the streets, and which appear to be somewhat in the nature of natural streams or brooks taken into artificial channels along the streets. But as these are open to every sort of accidental or incidental contamination, the more enlightened inhabitants of Maritzburg are beginning to protest, in that forcible and lively style which seems peculiar to colonial journalism, against being compelled to drink water brought to their doors in this primitive and unconventional manner. Another peculiar point in the arrangement of Maritzburg is, that the word "street" does not apply to the passage way between the blocks of houses, but to the blocks of houses themselves. The town is all laid out in long parallel blocks of building, back to back, with long streets, as we should say, between them, and short cross streets; but the block itself is called "Pieter-street," or whatever may be the name, and is divided transversely into blocks of the width of a house, the block being numbered, and the houses looking to either side, in block 37 for example, are both called "37, Pieter-street." The fact is curious as illustrating the different ways of doing things, and also as bearing on the very various meanings which the word "street" has

* South Africa. By Anthony Trollope. London: Chapman & Hall. 1878.

gone through. In some of the south counties of England it stands for a village; and when the Dutch built Maritzburg the equivalent word, which has passed into the English "street," probably meant a block of building.

The description of the diamond-mine town of Kimberley is interesting and characteristic, though certainly not inviting. The town is "built of corrugated iron." The one fact is enough; we fancy we see it. Bricks cannot be made which will stand the weather, because fuel is so expensive that two thoughts have to be given to boiling a kettle; and to lay an ordinary room with a boarded floor would cost about 40*l*. In consequence, even people doing well with their diamonds live in comfortless houses, always meaning to leave next year or the year after, but always remaining to make more money and a larger fortune for the "retirement" which, as is so often the case, is postponed *sine die*. The town has a square called Russell-square, considered very fine, but chiefly remarkable because one of the two buildings in the town which have more than one story stands in it. "'I thought it very ugly at first,' said a lady who had been brought out from England to make her residence among diamonds, 'but I have looked at it now till I have to own its magnificence.'" In this case familiarity seems to have had the reverse of the proverbial effect. What seems to us still uglier is what Mr. Trollope says of the devotion of educated people to the work of turning over dirt for the discovery of the fictitiously-valuable diamonds. The diamond-seeker cannot give up his work and take to his literature at four or five p.m.; his mind is never off the chance that "dirt thrice turned may yet be a fourth time turned with some hope of profit." Ladies and children turn dirt instead of doing needle-work or playing. "And when ladies have told me, as ladies did tell me,—pretty, clever, well-dressed women,—of hours so passed, of day after day spent in the turning of dust by their own fingers, because there might still be diamonds among the dust, I thought I would almost sooner have seen my own wife or my own girl with a broom at a street-crossing." Truly we are with Mr. Trollope there.

Indeed, one of the morals which his book seems to point, and which he himself appears to have had a good deal before his own mind in the course of his investigations in South Africa, is the regenerating influence of honest labour. He urges with much truth (vol. ii., p. 188) that regular labour and the habits it induces are more likely to bring about a higher religious creed than the inculcation of the religious teaching is likely to effect by itself. The missionaries, he complains, have tried here and there to make a model Christian after their own hearts, with very partial success. Mr. Trollope had not seen the model Christian perfected; but, he says, "when I have looked down into the Kimberley mine and seen three or four thousand of them at work,—though each of them would willingly have stolen a diamond if the occasion came,—I felt that I was looking at three or four thousand growing Christians." Let us hope so too.

WORK AND WAGES IN THE BUILDING TRADES.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE discussion on Mr. Brassey's paper* on this subject took place on Monday evening last, Mr. G. E. Street, R.A., in the chair. There was a very full meeting.

Mr. George Howell, as representing the workmen, was first called upon to speak. He said there could be no body of gentlemen better qualified to discuss this question than architects, holding as they did a position of neutrality between employers and workmen. It was stated in Mr. Brassey's paper that the Saturday half-holiday commenced in 1859, that was an error; it was in 1857. Two points were strongly emphasised in Mr. Brassey's paper,—firstly, the alleged reluctance on the part of the workmen to piece-work, and secondly, the alleged want of earnestness on the part of the workmen to do a fair day's work for their wages. Now, as to the first of these points, practised architects would not need to be told that, in building operations, it was almost impossible to apply the principle of piece-work throughout all branches. There were certain departments of work in which it could be applied; but how, he would ask, was it to be applied to brickwork, for instance, except, perhaps, in cutting gauged arches and the like? To apply the principle of piece-work or task-work to bricklayer's work, it must take the particular form recommended by Mr. Brassey,—a number of workmen taking the work and dividing the profits between them,—a method of working which was impracticable in connexion with the present system of contracts. Piece-work, he admitted, could be very well applied to some parts of mason's work and to joiners' work generally; but, in other branches of the trade, there were practical difficulties in the way of piece-work which had not been got over, and which could not be got over. The principle of piece-work could only be advantageously applied where a man could bring his whole energies to bear on his work, and be responsible for it until it was completed. A tailor and a shoemaker could do this, and so could workmen in some branches of the building trade. Many of the alleged difficulties on the part of the workmen in regard to piece-work had been really the difficulties experienced in applying the principle throughout the trade. He had had experience as a man and as a foreman, and to some little extent as a master, and he had not been able to see how piece-work was to be generally applied in the building trade. The second point referred to in Mr. Brassey's paper involved one of the most disastrous allegations that had ever been made, or that ever could be made, against the workmen, viz., that they "skulked," as it were, at their work, and did not endeavour to earn the wages they received. He was prepared to admit that there was in human nature,—and in *all* human nature, not only that of the workman,—a desire to get as much money as possible for as little work as possible, but that was a very different thing to saying that because men had a certain amount of work allotted to them for a certain wage, they should, as a matter of course, seek to "skulk" out of that work. He denied the existence of such a disposition to "skulk" amongst the working-men of this country, and he denied the accuracy of Mr. Brassey's conclusions as to the diminution in the amount of work done by a workman now as compared with what he did twenty years ago. It was, however, very difficult to test the amount of work a man ought to do. Some people, for instance, thought that the proper number of bricks for a man to lay in a day was 1,000, but all practical men knew that while in some cases it was possible to lay an even greater number, in other cases it would require absolutely harder work and closer application in order to lay 500, or even 300. Of course it entirely depended on the way in which the work had to be executed. He had talked with a large number of foremen and others as to the amount of work done by workmen in the building trade at the present time as compared with twenty-five years ago, and the answer he had received in almost all cases with regard to skilled men had been that their work to-day would bear comparison, in amount and quality, with that done at any former period. The only exception had been with regard to cases where there had been a sort of "nigger-driving" by "sloggers" or "jerry-builders" in the outlying parts of London, where men were encouraged by sixpence a day extra to surpass each other in the quantity of the work done, to the detriment of its quality. He denied that workmen as a body failed to do a fair day's work for their wages; at any rate, if the allegations to the contrary were true, the foremen must be very incompetent. Foremen ought to know the amount of work a man should do, and they ought to know how to dispose their men on a job so as to give each one the work for which he was most adapted, and so obtain the best aggregate result of their labours. As to the statements contained in Mr. Brassey's paper as to the cost of the new railway station at York, he did not wish to say one word which could be construed as disrespectful to the gentlemen (Messrs. Lucas) who supplied that information; but, after all, it was only an *ex parte* statement, and therefore not sufficient to enable an accurate conclusion to be drawn; it needed to be supplemented by a statement of many other circumstances and details before it could be positively accepted. Numberless statements of the kind had been made without any adequate foundation, and, strange to say, they had been quoted as indisputable by Mr. Greig, Mr. Thornton, and other writers on the subject. Ninety-nine out of every hundred of the allegations against trade unions in respect of restrictions were absolutely untrue. Take the case of "one-handed" bricklayers, against whom it had been attempted to raise a laugh because they would not use both hands in laying bricks. As a matter of fact, the cases in which it was possible for a man to lay bricks with both hands were very few, and they formed but a small portion of the aggregate amount of brickwork done,—for instance, in very wide walls and in footings, where a man could occasionally drop his trowel, although even then, with the almost certain risk of cutting or chapping the thumb of his trowel-hand to an extent that would, on the whole, hinder rather than facilitate his rate of work. In nearly the whole of his work, the bricklayer needed his trowel constantly in his hand, and, therefore, he ought not to be reproached for laying bricks with only one hand. It was as difficult for a bricklayer to lay bricks with both hands as it would be for a clerk to write with both hands. He did not mean to say that trade unions had not some stupid rules, or that they had not had such rules in the past; but some of these had been got rid of. The opponents of the unions would do well to attack only those rules which were absurd.

Mr. Alsagar Hay Hill, of the *Labour News*, referred to the strike and lock-out of 1859, and read an extract from a paper read by him on the subject before the Royal Historical Society, in which he laid the chief blame of that contest on Mr. George Potter. He said it was an important matter for trade unions to consider whether they ought not to take some steps to imbue their members with a feeling of fair play and consideration for employers, because while capital could do nothing without labour, labour was dependent upon capital. If working men would reflect upon this the interests of this country, in a commercial and manufacturing sense, would be more fully maintained. He had for a great many years taken deep interest in the welfare of the working classes, having himself worked at the bench when a lad of fourteen or fifteen in the town of Preston; and this subject of the relationship between masters and men had attracted his attention at that early age by seeing, in Canal-street, Preston, a "great demonstration" of men who had come out on strike against the use of the then newly-invented "self-acting mule." It had now become a canon that the attention of men to their work was in an inverse ratio to the amount of their earnings. Let all workmen be paid what their work was worth, and let there be no attempt at uniformity or levelling. He thought that the remedy for the state of things caused by strikes would manifest itself in a few years, when we might hope that English workmen would be better educated than at present, and would, therefore, know something of political economy. We were told on high authority that charity was twice blessed,—it blessed him that gave and him that received; but the 150*l*. taken by the masons on strike from the Bricklayers' Society on Saturday last could not have had a blessing attached to it, because it was a premium upon, he would not say idleness, but at any rate upon neglect of work.

Mr. Horace Jones said there was a great deal in Mr. Brassey's paper with which he agreed, but the facts brought together in it were not so complete as could have been wished. For instance, he had taken no note of one very important factor in the case, viz., the importation and accumulation of gold and silver. From 1865 to 1875 there had been an accumulation of gold and silver bullion in this country to the extent of from forty to fifty millions sterling, and this would necessarily cause a rise of prices in almost all articles of consumption. He regretted that the old conditions of work should have died out; he believed that but for the decadence of those conditions trade unions would never have been called into existence, or at any rate, that their policy and objects would have been of a different character. Up till fifty or sixty years ago there were, instead of the large firms of builders now existing, numerous small master-men in each branch of the building trade. Each of these masters worked with his own hands at his trade, and was assisted by two or three apprentices and two or three skilled workmen, who had become skilled by means of a term of apprenticeship, served, in all likelihood, under the master whom they were continuing to serve. These men were paid so much a week, good weather or bad, all the year round. There was something like community of interests between employer and employed

* See p. 129, *ante*.

under this arrangement, the relationships subsisting between masters and men being more like those subsisting between the various members of a family. That good work was done under such a system was shown by the works of Sir William Chambers and Sir Christopher Wren, with which the names of some of the small master-tradesmen had been honourably associated. He did not agree with Mr. Howell that it was a fixed principle with all men to receive pay for a certain amount of work, and to do as small a part as possible of the stipulated quantity.

Mr. George Potter said that according to some gentlemen, working men were always very desirous to be "striking," but the contrary was the case. Mr. Hill had accused him (Mr. Potter) of being the chief cause of the strike and lock-out in the London building trades in 1859. He was glad he was there to correct the mis-statement, for although he played a humble part in those events, everybody knew, or ought to know, that the strike was agreed upon only after due deliberation by the workmen in every branch of the building trade. The workmen, by a large majority of their delegates, decided to cease work; but he, with a great many more of the leading delegates, opposed that course, and urged the desirability of the men continuing at their work until the points in dispute had been further discussed. He, however, was in the minority. Those who, like Mr. Hill, presumed to speak to the public with authority on such questions, ought to know that no strike of any magnitude could take place without the sanction of a majority of the trade, and that it was not in the power of the secretary or officers of a union, except with the sanction of the members, to declare a strike. The event referred to took place nearly twenty years ago, and the part he (Mr. Potter) took in the matter had been repeatedly misrepresented. In the conclusions arrived at by Mr. Brassey in his paper there was very much that all would agree upon. Mr. Brassey had given a considerable amount of attention to the subject, and had therefore some right to be heard, especially as he apparently tried to speak without prejudices for or against either party to the controversy. It was not correct, as had been suggested by Mr. Hill, that trade unionists as a body denounced capital or capitalists. Now and then, perhaps, one or two of their spokesmen would speak rashly and unwisely, but such extreme men did not represent the great bulk of the members. Capital was necessary to the employment of labour, as labour was for the development of capital, and both should share in the joint results of their combination. The question was, what proportion of these results should go to capital, and what would be a fair reward to labour. It had been mentioned that the building operatives had, within the last twenty-five years, advanced 44 per cent. in their wages; but capital had increased no less than 250 per cent. in the same period. In this increase of wealth, were workmen to be prohibited from sharing? He contended that the building operatives had bettered their social position by means of their increased wages, and that their work was proportionately better than it used to be. Trade unions were charged with suggesting or demanding that all workmen—good, bad, or indifferent—should be paid alike. That was not true,—the unions merely fixed the minimum wage, beyond which a man was free to get as much as he could. As to piece-work, in many branches of the building trade it was impracticable. In some branches it was of course available, as in joiners' work; but even there it was attended with certain evils, as the men were instigated by the masters to "race each other's guts out," and as the men earned rather large wages by such rapidity of work, the work was "scamped," and the masters sought to reduce the prices given. Piece work ought to be done at a scale of fixed prices,—prices which would enable a competent and industrious workman to earn fair wages. As to overtime, it was the curse of the building trade, and the workmen were right in resisting it. He himself had known what it was to be on a job from five in the morning until eleven at night, and so utterly exhausted had he become during the last few hours that he had dropped to sleep on the shavings in the shop, — and for the time thus spent in sleep his master had paid. It was impossible for men to work well if they had to work overtime. In fact, overtime was unprofitable to the masters, and was a curse to the men and a nuisance to the society. As to the general question of wages, the men thought their claims were not unreasonable when they saw the enormous discrepancies in builders' tenders for large works. Take the case of the Law Courts, for instance. The highest tender was 1,000,000*l.*, but the accepted tender was only 720,000*l.* Now, if one firm could execute a large job for a quarter of a million of money less than another firm, and pay good wages to the workmen, and yet see its way to a fair profit, what must be the profits sometimes made by builders? He regretted, with Mr. Horace Jones, that the old relations between masters and men had died out,—that the numerous small masters had been overridden by the giant firms of the present day.

Mr. C. Lucas said it would be "bad form" for him, even if he could do so, to say an unfair word against the operatives, for he had profited largely by them, and they had, on the whole, behaved extremely well to him in times past; and it was therefore only from a sense of duty towards the men and towards the public that his firm was induced to give some of the information contained in Mr. Brassey's paper. The accuracy of that information had not been disputed. If Mr. Howell and Mr. Potter were to talk till doomsday they would not alter the indisputable fact that the workmen did not now do near so much in a day's work as they did when they were paid lower wages. Mr. Howell had suggested that the undue cost of labour in the brickwork at York Station was due to an incompetent foreman. He (Mr. Lucas) begged to say that the work was under the supervision of Mr. Clemence, who was a most experienced man, and had superintended many of the principal works undertaken by the firm. [Mr. Howell here disclaimed any personal imputation upon Mr. Clements.] Having supplied the facts referred to in Mr. Brassey's paper, he (Mr. Lucas) felt bound to stand up and vindicate them. He found that upon all work except that done in the shop (which was to a large extent done by machinery) and on engineering works, the amount of work done by the men had diminished as their wages had increased. He regretted to have to say this, because he had no antagonism to working-men. Why should he have? He had been a workingman himself. He began life as a boy earning 6s. a week, and the President of the Institute (Mr. Barry) knew him at that time. He had risen, but he never had a shilling but what he worked for. He had, in fact, attained his present position step by step, simply because he had always sought to do all he knew to make the best friends of his employers. He did not say this boastingly, but he affirmed unhesitatingly that he should never have risen as he had done had he been hampered as working-men now allowed themselves to be hampered by trade unions. Whatever might be the ability and industry of a workman, he defied him to rise to a similar position under the present regulations of the unions. Whatever might be a man's merits as a workman, they would go for little without freedom of labour. He was prepared to substantiate the statement that workmen in the building trade did little more than half the work for 9d. an hour than they did when they were getting only 6d. His firm's accurately-kept books of prime cost for a series of years would prove this, and they were open to the inspection of the President and Council of the Institute, or any body of gentlemen interested in the subject. He was the last man to object to the working-man being paid good wages: his sympathies were naturally with the workingman; and as a builder it was quite immaterial to him how high wages were provided that the public (who was the real paymaster) would pay them, and provided that he knew exactly how much work to expect for a given sum spent in wages. He denied Mr. Howell's assertion that it was a recognised principle with all classes of men to do as little as possible, and in the shortest amount of time, for the largest sum of money they could get. He agreed with Mr. Potter that in piece-work prices should be fixed at such a rate as would enable a man to earn a fair amount without undue exertion, and he did not know that the Council of the Institute could be better employed than, with the assistance of expert surveyors, framing a list of what really were fair prices for labour. He was prepared, on behalf of his firm, to give to the workmen all they received for labour, less 10 per cent.,—5 per cent. for interest on capital, and 5 per cent. for labour and brainwork in supervision and for risks. It was absurd to say that brickwork could not be done by the "piece"; he had let thousands of rods of brickwork at so much per rod. He was sorry to see how the workmen were injuring their own cause, and alienating their best friends, amongst whom he counted himself and his brother, who had never subjected their men to unkindness in word or deed. The men were, in fact, "cutting their own throats." As an instance of this he would mention that his firm were now engaged in constructing some dock walls, in which half a million yards of concrete would be required in lieu of masonry or brickwork; this represented brickwork to the value of a million, and masonry to the extent of two millions of money. Another instance was afforded in the case of the Charing-cross Hotel extension, which his firm was carrying out, and in which all the stonework had been cut out, even to the steps, in consequence of the strike. Even stucco was being largely resorted to, in consequence of the prohibitive rate charged for labour on stonework. Mr. Potter said it was all nonsense to say that the unions demanded a uniform rate of wages for all men. Whatever their rules might say, their practical operation had that result. He thought that workmen would do much better, instead of sacrificing such enormous sums of money as they did in strikes, to invest their funds in co-operative building companies, and so become their own masters. Were they to do this he ventured to say that they would not be in business a month before they would find all their calculations upset by the union rules. Masters knew too well the value of good workmen to treat them unfairly. It was urged by the workmen that the piece-work system would lead to "scamped" work; but that was an argument that told against the men themselves, for if the work would be "scamped," there must be "scamps" to scamp it. But this was merely a question of supervision. Workingmen in the building trade would do well to consider their present position. The trade was not what it had been, nor could it be expected that it would maintain the briskness of the last thirty years. London had been, to a great extent, rebuilt during that period, and new suburbs had arisen; new streets and railway extensions had also been carried out, and there was not a great deal of this work remaining to be done, and, in consequence of the enhanced and uncertain cost of building operations, people did not spend money in bricks and mortar unless they were absolutely compelled to do so. He submitted to the men, with all kindness and with all sincerity, that the adoption of the piece-work system would be to the mutual interests of masters and men, provided fair prices could be agreed upon. He had a large number of men in his employ working on this principle; many of them had been with the firm from boyhood, and their sons were now working with them. He regretted that his firm had made a mistake in counselling the concession of the "nine hours" and the Saturday half-holiday, but he believed at the time that the men would work with increased energy during the rest of the week as the result of those concessions. Such had not been the case, however. He thought it was a great mistake for building operatives to leave off work as early in summer as in winter, seeing that it was only in summer that outdoor work could be done. He thought that in summer time workmen might reasonably be asked to work ten hours a day, and six times ten, that is, sixty hours per week. He earnestly counselled the men to consider well their position, and, in all friendship and affection, he would advise them, as he did his own sons, to be in earnest over their work, and to do it well.

Mr. I'Anson had been astonished, as a practical architect, to hear Mr. Howell say that brickwork could not be done by the "piece," for he could conceive of no branch of work in the building trade which was more capable of being carried out in that way. No doubt, as Mr. Potter had suggested, it was the combination of labour with capital which produced results in building, and without doubt each was theoretically entitled to a share of the profits. But what those respective shares should be was an extremely difficult matter to settle. The value of labour, in fact, as of any other commodity, could only be fixed by the operation of the law of supply and demand. There was no better illustration of the operation of this law than was afforded by the case of domestic servants. They had no union, and therefore no strikes, yet their wages had increased within the last thirty years by something like fifty per

cent., simply because there was an ever-increasing demand for their services. It was an utter fallacy for a union to make rules the only effect of which could be to bring the good workman down to the level of his inferior in skill.

Mr. Howell: There is no such rule in any trade union in the kingdom.

Mr. I'Anson said the disclaimer just made was a most gratifying one. He thought the course pursued by the master builders of London in regard to the masons' strike was quite justifiable. They wanted labour, and the whole world being free to choose from, they went wherever they could get it. No one could dispute their right to do this.

Lord Houghton said that some years ago he was one of a committee appointed by the British Association on the relations between capital and labour, and on that occasion he had come in contact with Mr. Howell, Mr. Potter, Mr. Lloyd Jones, and other representatives of the working men,—and most intelligent men he found them to be. But what struck him most was that they were continually iterating the same statements, without being able to support them by any considerable amount of new facts; they were unable to prove that any of the continual strikes which had taken place throughout the country could be said to have "paid," or produced results to the workmen commensurate with the outlay. Considering the immense amount of money that had been sacrificed in strikes, and, what was even more sad, the enormous amount of loss of habits of industry which had been brought about by the enforced abstinence from labour which they entailed, the committee came to the conclusion that although there might have been, and no doubt was, a very large and considerable legitimate increase in the profits of labour in several trades, yet, nevertheless, there was abundant reason for believing that these results would have accrued in the ordinary course of things without the loss incurred by strikes. He could only say, in corroboration of what had been already said, that in his own sphere of life people were becoming more and more disinclined to spend money in building, in consequence of the uncertainty introduced by the possibility of strikes. He regretted the necessity that had arisen for the importation of foreign labour, and thought that it was an experiment which would not be found to succeed in the long run, for it was an exceedingly difficult thing to acclimatise foreign labour. He believed that the only true remedy would be found in the advancement of the education of the workman in the doctrines of political economy. Workmen ought, also, to learn something from the present position of affairs. Let them look at the stagnation in the coal and iron trades, and at the condition of South Wales.

Professor Kerr said that Mr. Howell and Mr. Potter had expressed their willingness to appeal to the judgment of architects. Now, he thought he might safely say that all architects, in the Institute at any rate, were prepared to countenance and encourage trade unions for all good purposes, because they themselves knew how good a purpose was served in their own profession by their being bonded together in unity. But there were two things in connexion with trade unions that architects would never countenance, viz., the attempt to equalise wages, and the monstrously cumbrous, awkward, and wicked policy of strikes. There could never be any necessity for a strike. A strike was an act of open war,—war *à outrance*. If there was anything which would benefit workmen it would be the pursuit of an undivided policy of perfect peace. The common sense of the country might always be relied upon in such matters, and the architects were in accord with the public when they said that they would never agree to the equalisation of wages or to a policy of strikes.

Mr. T. Chatfeild Clarke said it would be a great mistake if the representatives of the workmen then present were to leave the meeting without feeling that the architects were able, to a certain extent, to sympathise with and understand the position taken by the men. He (Mr. Clarke) for one, in common with a great many other speakers, could not shut his eyes to the undoubted fact that there had of late years been a great decadence both in the quantity and quality of work done; but, on the other hand, he held that the working man, as a free agent, had a perfect right to combine with his fellow-workmen to obtain the best possible price for their labour, to an extent short of anything like intimidation. He believed that arbitration was the true remedy for settling all such disputes, but however much he might regret the injurious effects of strikes, he could not regard them as crimes; they were the unfortunate result of disputes between capital and labour, where neither party would give in.

Mr. Arthur Cates said he had an instance of the way in which trade unions exerted themselves in restraint of trade. A granite merchant in the West of England recently acquired some granite quarries at Dartmoor, with the view of embarking considerable capital in them. The system on which the works had been hitherto conducted was piece-work, each man being paid by measurement for what he did. No sooner had he completed his arrangements (which were made on the supposition that the existing mode of work would be continued) than the Granite Masons' Society issued an order to this effect,—"That no more piece-work be done, and that day-work be insisted upon, at one rate of wages." The result had been that the proprietor had been prevented from developing the quarries, as he had intended, by the employment of 300 or 400 men, and was now only employing thirty men in making pitching. He found it was impossible, under the day-work system, to execute any ashlar plinth or moulded work for less than from 25 per cent to 30 per cent. advance on prices under the piece-work system.

Mr. Trollope said that allusion had been made to the strike of 1859, and as his firm was the first struck against, he might explain how it arose. They had some masons at work, and his brother, in looking round the works, was continually seeing one man who appeared to be doing little or no work. He spoke to the foreman about it, and suggested his discharge, but the foreman explained that the man in question was a "shop steward," and that if he were to be discharged all the other men would strike. Now, the amount of work done by that man in a week was found to amount only to 15s. 6d., whereas he was being paid 35s. The man was discharged, and the whole of the men afterwards left. He agreed with all that Mr. Lucas had so ably said.

Mr. Ewan Christian said he was glad to hear that the rule as to all men being paid alike was abolished, for such a principle was grossly unjust to the skilful and rapid workman. Thirty-eight years ago he was, as clerk of works, superintending the erection of a church. Some years previously he had been advised by a very shrewd builder in Nottingham to take account of every piece of work done on a building, and to value it as it went on. He adopted the suggestion, and a most valuable one it was, and he had since taught a great many young architects to do the same. One curious point in his experience at that remote period was this: twelve masons were working together under one shed, and it so happened one particular Monday morning that each of these men had a similar stone put upon his banker, and that each stone had to be worked into a moulded capital of exactly the same size and design. Of these twelve men, the first man finished his capital, and did it better than any man in the shop, in three days. The second man finished his in four days, the next in four and a half days, and the others in from four and a half to five and a half days, the last man taking six days to complete his work. Now all these men were paid alike, 5s. per day, and it struck him at the time as being most unjust, for if the one who occupied six days over the job was fairly paid at 5s. per day, the one who finished it in three days was obviously worth 10s. a day. As to what Mr. Howell had said as to all workmen getting as much money as possible and doing as little work as possible in return, all he (Mr. Christian) could say that no man who was "worth his salt" would descend to such behaviour.

Mr. W. H. Lascelles said that as a master builder, although in a somewhat smaller way than Mr. Lucas, he felt bound to say a word in defence of the men. He and his predecessors had carried on business for forty years, and had never been struck against, nor had they ever had any difficulties with their workmen. As to the amount of work done, he found that the men did as much now as they did twenty-five years ago. He admitted that his was exclusively a "piece-work" shop, and that the work was principally done by machinery. He had always found his men ready to assist him, and the utmost good will prevailed on both sides. He did not know how many union men he might have in his employment, perhaps ten, perhaps a hundred: he had never cared to inquire. One of his men he knew as having been on a union committee, and he was a most excellent workman, and had been with him for many years.

Mr. Lucas said that he agreed with Mr. Lascelles as to shop-work; it was on outdoor jobs that there was a diminution in the amount and value of work done by the men.

Mr. Alsagar H. Hill asked whether Messrs. Lucas would ask their workmen to share losses on contracts or by compositions of creditors? If not, it was a one-sided bargain to allow the workmen to share the profits of the business.

Mr. Lucas explained that he made no such proposal. He simply said that, as an earnest of his desire to pay men well for their labour, he would let them have all he charged for their labour, less 10 per cent.,—5 per cent. for personal labour, supervision, and risks, and 5 per cent. for interest on capital. His firm did not profess to work for less than 10 per cent. profit, nor did he believe that any firm could afford to work for less.

Mr. Henfrey said that as a contractor of twenty-five years' standing he endorsed the statement formulated in Mr. Brassey's paper, and vouched for by Messrs. Lucas, that there had been an enormous increase in the cost of labour. In 1843 or 1844 he built a railway viaduct in Manchester. He let the brickwork by the piece, and the prices he paid were from 1s. 10d. per cubic yard for the foundations, to 3s. in the arches and parapets, whereas the price mentioned by Messrs. Lucas as having been paid by them at York was 9s. He supposed they had to do it by daywork.

Mr. Lucas: Yes; the men would not take it by the piece.

The Chairman (Mr. Street, R.A.), in closing the discussion, said he had been pleased at the tone and temper preserved throughout the debate. Mr. Brassey's paper was a clear statement of the case, and he must say that the discussion had only tended to confirm its accuracy. It was pointed out, and very justly, that the increased cost of living, and the increase in the price of almost everything, justified a very considerable advance in wages. The question which the paper went very far towards solving was that of the law of supply and demand. Mr. Brassey had pointed out that the common labourer, whose claims had not been supported by any union, had obtained a larger increase of wages than the artisan himself. Speaking for architects, with the most kindly feeling towards the men, and with the greatest possible desire to encourage good work, he must say that the result of his experience was certainly such as very much to confirm what had been said by Messrs. Lucas to the effect that, in the present day, we did not get the same amount of work that we used to get. Nor did the quality of the work exhibit any tendency towards improvement. Messrs. Howell and Potter had stated that the unions only fixed the minimum rate of wages, and did not restrict men from earning larger wages. However limited their restrictions might be, the practical effect of them was to secure a uniform rate, which was very unjust. In masons' work, for instance, it required a very skilled man to make a good "Gothic" mason; but why should such a man be paid only at the same rate as the mason who worked on ordinary and inferior work? How, under such rules, could the good workman hope to better his position? As to the rules said to exist on the books of some societies limiting the amount of work that men should do, they were self-condemned. He could not quite agree with Professor Kerr, for he saw no wickedness in a strike provided it was undertaken with the view of obtaining a fair day's wages for a fair day's work, but let the men be sure of their object before striking. The case of dictation by a union cited by Mr. Cates was but a typical one. Such rules as had been quoted did interfere, more or less, with the freedom of the workmen. The discussion at the Institute, if it did nothing else, would serve to show the workmen that there was no hostility to them on the part of the architects, and far less than they might suppose on the part of the builders. He thought the speech of Mr. Lucas was creditable to him in every way. He hoped that the workmen would see that it was as much to the interest of the masters to avoid strikes as it could be to the interest of the men. The statements made by Mr. Lucas as to the substitution of concrete and stucco for stone

and brickwork were full of serious import, not only to the workmen, but to architects and the public, for the use of such materials must have a tendency to destroy all artistic expression in buildings, and if they were to be restricted to concrete and compo, instead of masonry and brickwork, architects would almost have to give up. He appealed to the representatives of the workmen then present to consider their position and what had been said, and he hoped that one result of the discussion would be to hasten the time when the unions would cease to put forth such rules as those which had been condemned, and which were of such a mysterious character that when quoted by one side they were always energetically repudiated by the other.

The discussion then terminated, much regret being expressed at Mr. Brassey's absence.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

AT the ordinary general meeting of this Institute, on Monday evening last, Mr. G. E. Street, R.A., in the chair, the following new members were balloted for and duly elected, viz.:—As Fellows: Messrs. Robert Henry Burden and Henry Hall. As Associates: Messrs. Rowland Lockyer Cox, Frederick Henry Williams, and Francis Fowler, jun. As Honorary Associates: Sir Watkin Williams Wynn, bart., M.P.; Sir Charles Reed, LL.D.; and Dr. C. W Siemens, C.E.

The Pugin Studentship.—The drawings and sketches submitted by candidates for the Pugin Travelling Studentship of 1878 were exhibited, and it was announced that the Council had, after due examination of the drawings, awarded the studentship to Mr. G. W. Browne, the Sharpe Prize of 10*l.* being awarded to Mr. W. J. Millard, and a medal of merit to Mr. Sydney Vacher.

The Secretaryship.—The Chairman said that, within the last few days, as most of the members would know, an appointment had been made which would of necessity remove from the Institute one of its most useful and efficient officers, viz., Mr. Eastlake, who had been appointed Keeper of the National Gallery. Mr. Eastlake had placed his resignation in the hands of the Council. Mr. Eastlake had been most diligent in his duties, and it was noteworthy that during the whole of the eleven years he had been an officer of the Institute, he had never been absent from one of its meetings. The Council had passed the following resolution:—

"That the Council of the Royal Institute of British Architects cannot allow Mr. Eastlake's resignation to be accepted without recording their regret at their own loss, and their warm thanks to him for the industry, skill, and courtesy which he has so invariably shown during the eleven years of his service as secretary. At the same time they congratulate him heartily upon his appointment to the Keepership of the National Gallery."

The resolution was received with much applause.

Mr. Eastlake said he thanked the Institute very kindly for the manner in which they had received the announcement of his resignation. The appointment which the Prime Minister had been pleased to bestow on him was one which, on personal and family grounds, was very agreeable to him. If anything could have enhanced the pleasure which he felt in accepting it, it would be the hope, and he might say the conviction, that in quitting the service of the Institute after eleven years' official labours, he would carry with him the good wishes of so many of the members, most of whom he might, indeed, call his friends. His services would be at the disposal of the Institute until his successor was appointed.

The discussion then took place on Mr. Brassey's paper on "The Rise of Wages in the Building Trades of London," which we printed a fortnight ago (p. 129, *ante*). We give a report of the discussion in another part of the present number.

It was stated that the meeting to be held on the 4th of March will not be a "special general meeting for the award of medals and prizes," as previously announced. On that date Professor Donaldson will read a paper "On Obelisks: their Purpose, Position, Proportion, and Materials."

Bills to consolidate the law relating to weights and measures, and to provide for the insurance of buildings belonging to ecclesiastical benefices in England and Wales, have been printed.

A NEW HOUSE-IN-FLATS.

A BUILDER, Mr. James Blyth, who has erected a good many villa residences and semi-detached houses at St. John's Wood, is engaged upon a block of middle-class dwellings within a stone's-throw of that station of the Underground Railway. The carcass of the building approaches completion, and it contains, from top to bottom, no less than twelve self-contained dwellings. Each dwelling is provided with a kitchen and its necessary offices. There are two dwellings on each floor, approached by one stone staircase. The different stories are divided horizontally by party floors of concrete, laid between joists and iron bars, somewhat according to the Parisian system of construction; but the joists are steel rails, originally intended for a line of railway. Over the concrete a wooden floor is to be fixed. Though the distinction between the sitting, the sleeping, and the cooking accommodation is not so defined as we should advocate, the arrangement of the dwelling is an improvement upon the ordinary London "flat." Some of the windows are to be filled with oak casements, and small balconies are to be fixed outside. Besides plenty of cupboards, a wine-cellar and a coal-cellar are provided in the flat; and each dwelling has a cellar allotted to it in the basement. A porter is to reside in the block. The staircase is so arranged with a window on each story that the well-hole can be advantageously used for a goods-lift; it is so situated that a small furnace or an ordinary stove, placed in the basement would warm the air from top to bottom. If the smoke-shaft of that furnace or stove were carried up the well-hole into a small chamber at the top water could be warmed by it. We have seen this done with success, and offer the suggestion to the gentleman who is building this house-in-flats upon his own freehold ground. So confident, indeed, are all people who build flats in the success of their scheme, however primitively planned, that we shall not surprise any one by stating the minimum rent, all taxes and rates included, expected from one of these dwellings. It contains barely five rooms, and there are already numerous applicants who seem prepared to give 75*l.* a year for a home on the top floor, and in St. John's Wood.

ROYAL ALFRED SAILORS' HOME, BOMBAY.

THE building is Gothic in style, with a Mohammedan feeling: it was designed by Mr. F. W. Stevens, A.I.C.E.

The length of the frontage of the building is 270 ft., and the breadth 55 ft. It has two wings, one on the north side, 110 ft. in length by 58 ft. in width, and the other on the south side, 58 ft. in length and 58 ft. in width. There is accommodation for twenty officers, fifty-eight seamen, superintendent, assistant superintendent, and twenty servants.

The walls of the wings of the building have been built sufficiently thick to carry another floor, if at any time further accommodation is required.

Ground Floor.—The entrance-hall and principal staircase are in the centre of the building. The former has a panelled teak wooden ceiling, and the floor is paved with Minton tiles; the latter, which is 6 ft. in width, is constructed of blue stone with iron railing carried on groined arches. At the back of this hall is a baggage-room (24 ft. by 17 ft.), and in the front the carriage-porch (20 ft. by 15 ft.); in the north of the entrance-hall are the following offices:—Officers' sitting-room (26 ft. by 25 ft.), officers' dining-room (31 ft. by 24 ft.), pantry (24 ft. by 13 ft.), seamen's dining-hall (48 ft. by 24 ft.), provision storeroom (31 ft. by 24 ft.), dinner-service-room (31 ft. by 13 ft.), bar (16 ft. 6 in. by 9 ft.), kitchen (30 ft. by 20 ft.), scullery (20 ft. by 16 ft.), and quarters for twenty servants. On the east are the seamen's lavatories, baths, &c., which are approached from the main building by a verandah 7 ft. 6 in. in width. On the south side are the superintendent's offices (25 ft. by 12 ft.), clerk's office (25 ft. by 13 ft. 6 in.), seamen's reading-room (43 ft. by 24 ft.), storeroom for records, &c. (12 ft. by 11 ft. 6 in.), and the superintendent's quarters, composed of the following rooms: drawing-room (24 ft. by 15 ft.), storeroom (12 ft. by 11 ft. 6 in.), staircase (4 ft. in width), kitchen, and servants' room. There is a private entrance to these quarters on the south side. Verandahs, 9 ft. 6 in wide, run round the whole of the building on this floor.

First Floor.—On the north side of the principal staircase are placed the following rooms:—Dormitory for the accommodation of twenty officers (80 ft. 6 in. by 24 ft. 6 in.), with lavatories, baths, &c., and a dormitory for eighteen seamen (71 ft. by 25 ft.). In front of the main staircase is the assistant superintendent's room, and on the south side a dormitory for twenty seamen (83 ft. by 25 ft.), and the superintendent's quarters composed of the following rooms:—Two bedrooms (each 24 ft. by 16 ft.), with bath-rooms, &c., attached; verandahs, 10 ft. 3 in. wide, run round the whole of the building on this floor.

Second Floor.—On this floor there is one large dormitory for twenty seamen (76 ft. by 27 ft.), with bath-rooms, &c., attached. Verandahs, 10 ft. 6 in. in width, are to be placed on the east and west sides.

The facing of the building is of blue basalt; the carved cornices, bands, mouldings, dressings, &c., of Porebunder (a calcareous sandstone); the caps and finely-carved work of Hemnugger silicious sandstone; the arching, of Coorla blue basalt and Hemnugger stone; the flooring of asphalte; the covering of the main roof of the Broomhall Company's patent red tiles, laid on teak planking; the covering of outbuilding-roofs of Vieille Montagne Company's zinc. The piece of sculpture in the front gable, which represents Neptune, nymphs, sea-horses, and sea-lions on either side of it, were executed by Mr. Boulton, sculptor, of Cheltenham, in Bath stone. The caps, ornamental cornices, &c., are from models supplied by Mr. Kipling, late of the Bombay School of Arts, as also the medallion of his Highness Khunderao Gaikwar, in marble, in front of the porch. The ornamental iron gates to the entrance-hall, and the iron grilles, were manufactured by Macfarlane & Co., of Glasgow. The staircase-railing, iron finials, and castings, by Mr. Burjorjie Nowrojie, of the Bombay School of Arts.

The following is the inscription on the foundation-stone in the main staircase vestibule:—

"The First Stone of
this Building,
Erected as a HOUSE FOR THE SEAMEN of this Port,
and dedicated by
HIS HIGHNESS KHUNDERAO GAIKWAR, G.C.S.I.,
As a perpetual token of his loyal attachment to
H.M. QUEEN VICTORIA,
And in commemoration of the auspicious arrival in
Bombay of
H.R.H. the DUKE OF EDINBURGH,
K.C., K.T.G., C.M., G.C.C.S.I., P.C.R.N.,
Master of the Corporation of Trinity House,
Was laid by
His Royal Highness
This 17th day of March, 1870.
The Rt. Honourable W. R. SEYMOUR U. FITZGERALD
being Governor of the Presidency."

And a marble tablet with the following inscription has been erected in the same vestibule:—

"THE SAILORS' HOME
Was erected from Designs by
F. W. STEVENS, Assoc. Inst. C.E.,
And sanctioned by
The Government of Bombay,
On the 5th of December, 1871.
The work was commenced on the 28th February, 1872,
and was completed on the 29th February, 1876.
His Excellency the Hon. Sir PHILIP EDMOND WODEHOUSE,
K.C.B., Governor and President in Council."

The work was carried out under the immediate orders of Mr. J. H. E. HART, M.Inst.C.E., from February, 1872, to November, 1872; Col. J. A. FULLER, R.E., from November, 1872, to November, 1876. Mr. F. W. STEVENS, Assoc. Inst. C.E., executive engineer in charge. SITARAM KHUNDERAO, overseer.

His Highness KHUNDERAO GAIKWAR, G.C.S.I., contributed Rs. 2(0,000.

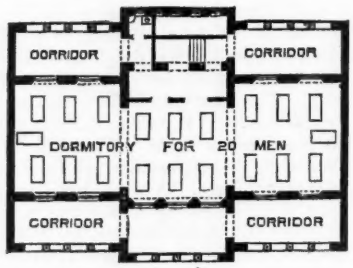
Estimate as sanctioned ..... Rs. 3,68,565
Actual cost* ..... Rs.

Major-General M. K. KENNEDY, R.E., Secretary to Government Public Works Department."

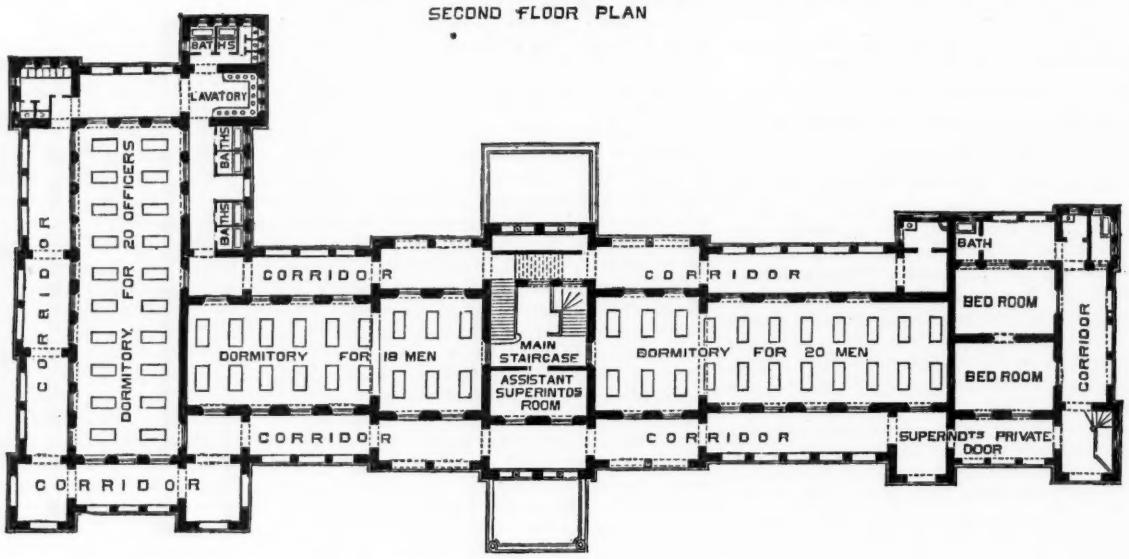
The building was publicly opened on the 19th of December, 1876, by his Excellency the Right Honourable Lord Lytton, G.M.S.I., Viceroy and Governor-General of India.

The building contains 1,026,624 cubic feet, and the rate is 5 annas 9 pies (8¾ pence) per cubic foot.

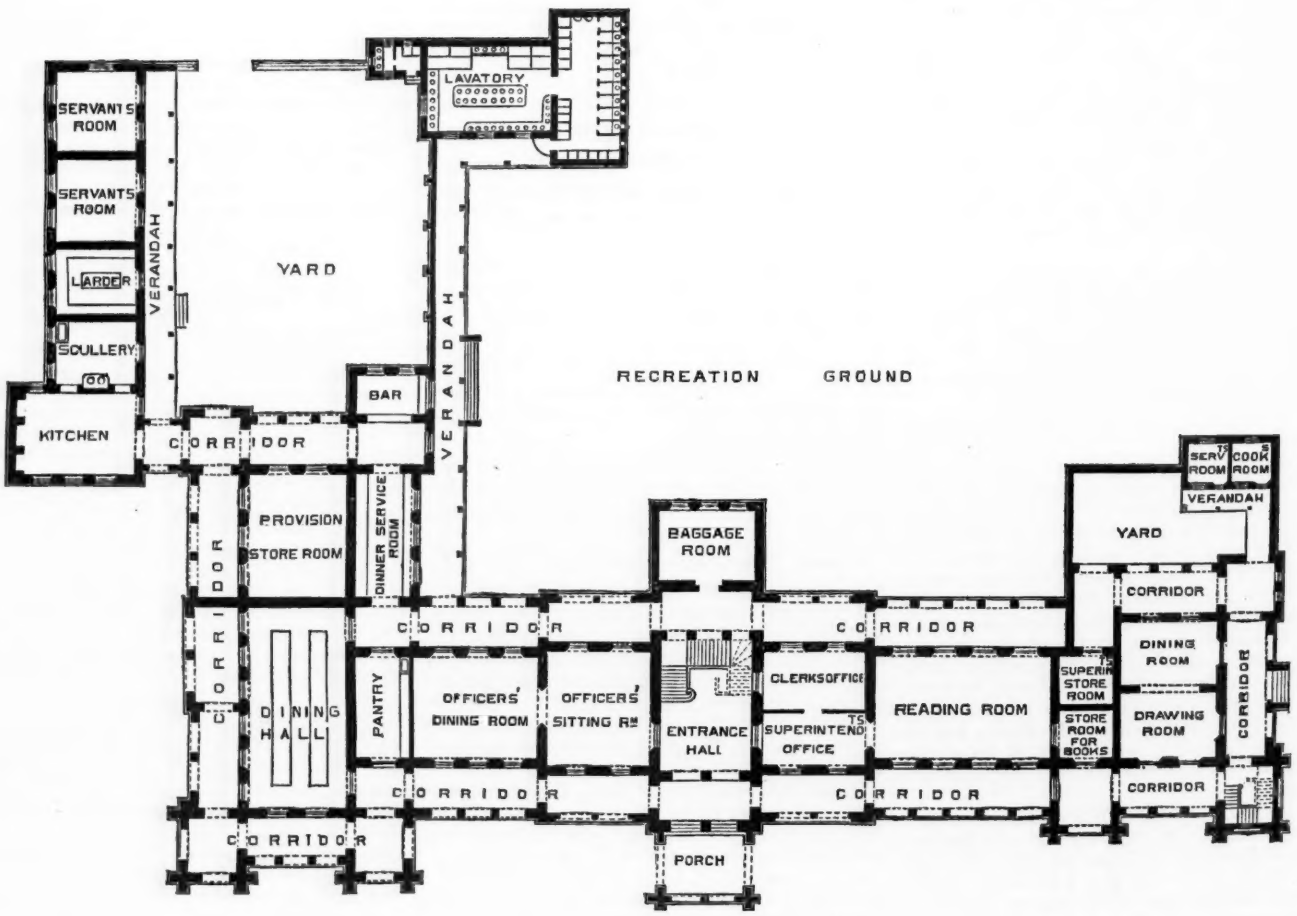
* Accounts not closed, but expenditure is within estimate.



SECOND FLOOR PLAN

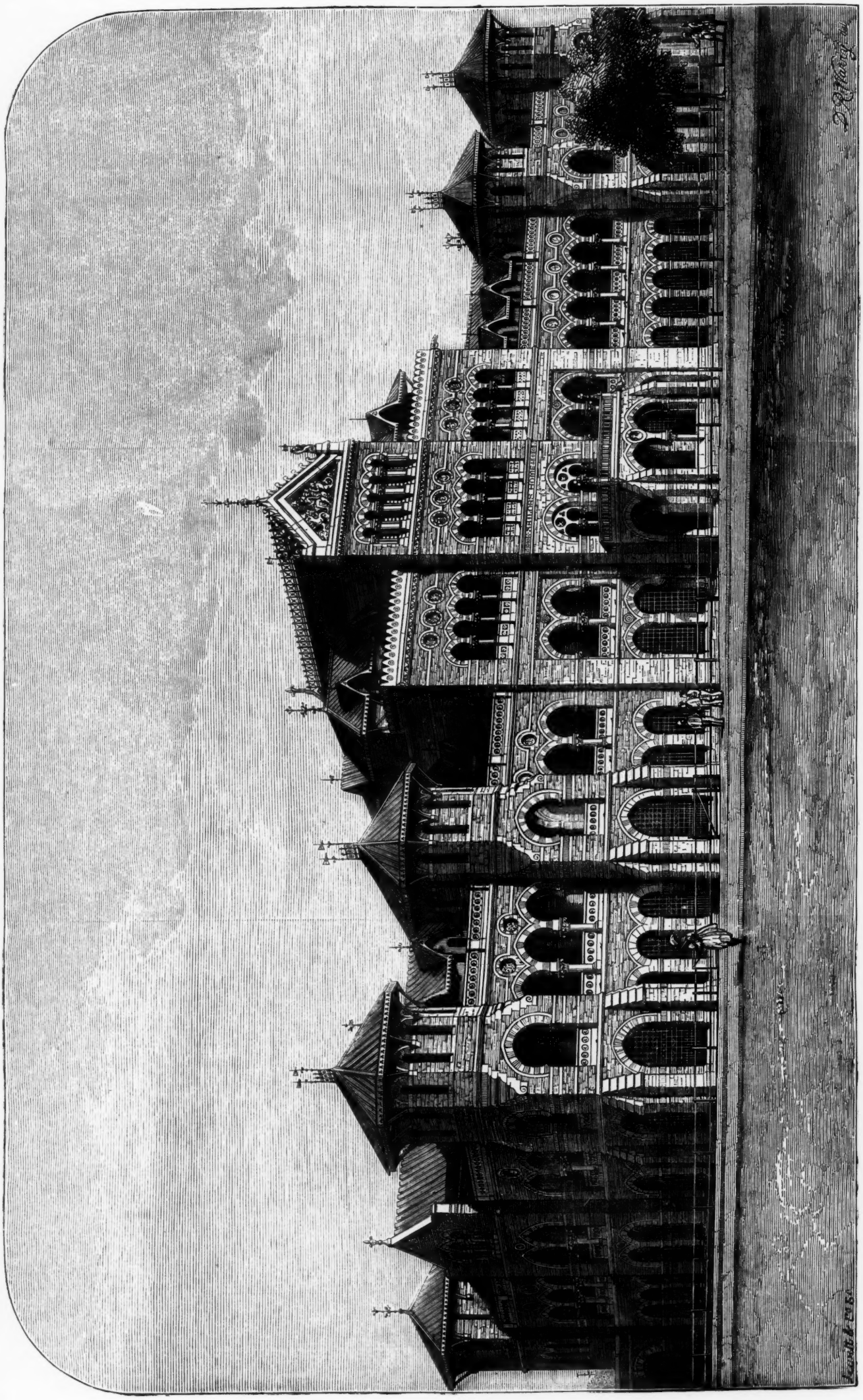


FIRST FLOOR PLAN

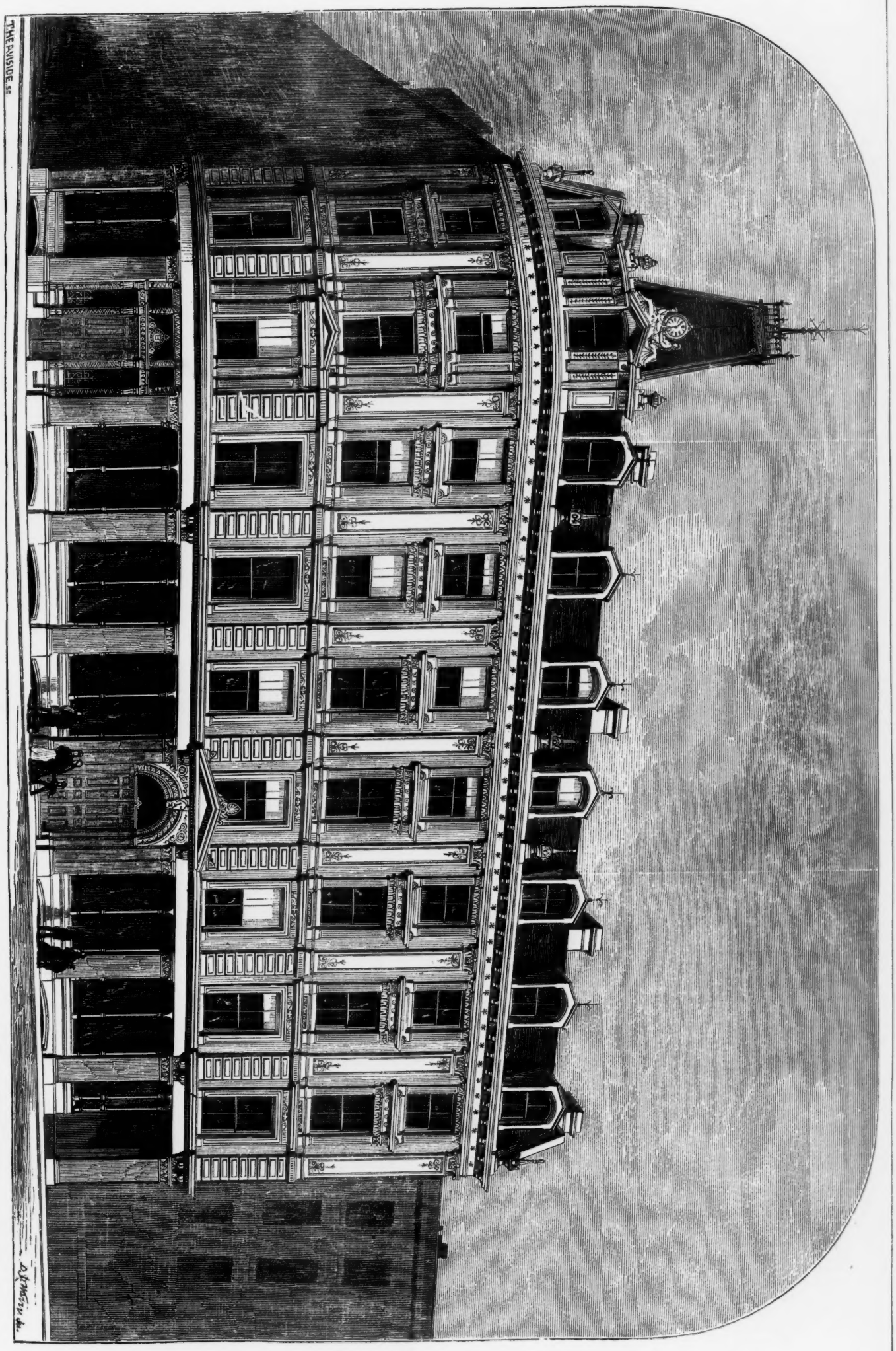


GROUND FLOOR PLAN

ROYAL ALFRED SAILORS' HOME, BOMBAY.—*Plans.*



ROYAL ALFRED SAILORS' HOME, BOMBAY.—MR. F. W. STEVENS, ARCHITECT.



LONDON STREET ARCHITECTURE: COLEMAN STREET AND GRESHAM STREET.—MESSRS. J. & W. WIMBLE, ARCHITECTS.

LONDON STREET ARCHITECTURE.

OFFICE BUILDINGS, COLEMAN AND GRESHAM STREETS.

THE buildings of which we give an illustration in our present number have been erected for Mr. Edward Burrell, of Lincoln's-inn-Fields, upon the site of some very old and dilapidated buildings, which had an irregular line of frontage, and till recently disfigured this very prominent position.

The basement is very extensive and lofty, and is exceptionally well lighted. The ground-floor is so arranged as to be divided if necessary into three distinct blocks, with separate entrances from Coleman-street, and is lighted in the rear with lofty lantern lights. The upper floors are approached by a broad stone staircase, having stained-glass windows by Messrs. Powell, of Whitefriars. Each floor has a separate block of lavatories, &c., and is so arranged that the offices can be let in suites of any number of rooms or the partitions entirely removed.

The style is Græco-Italian, and the elevation consists of an order with red granite pilasters, and enriched caps on the ground-floor, rusticated piers on the first, surmounted with flat panelled pilasters, two stories high, carrying an entablature with bold block cornice; the whole terminating in a Mansard roof, with dormers.

By arrangement with the Corporation, a uniform frontage of about 101 ft. in lieu of the old irregular line has been obtained, and the rounded corner, which is visible for a considerable distance up Lothbury and Princes-street, has been emphasised by the erection of a clock-turret carrying a dial with a double disc of plate-glass enamelled with opal, for illumination, supplied by Sir John Bennett.

The work has been carried out in Corsham Down stone, with brown Portland cornices and weatherings.

The windows, doorways, and lobby, on the ground floor are fitted up with American walnut partially ebonised, the lobby being paved with marble mosaic supplied by Messrs. Burke & Co., of Newman-street.

The fireproof flooring has been carried out by Messrs. Homan & Rogers, and the stone figures supporting the clock and the carving generally have been executed by Mr. Samuel Sansom.

The builders were Messrs. Ashby & Horner, and the architects, Messrs. J. & W. Wimble, of Queen Victoria-street.

THE INDUSTRIAL ARTS.—RIVALRY OF 1878.

THE catalogue of the forthcoming May International Exhibition at Paris divides the arts of design connected with industry into three classes:—Goldsmiths' work, bronzes, and cabinet-making. It is well known that, at all similar emulations hitherto, the French have claimed in these departments an unchallengeable superiority over all rivals, the Austrians not excepted. They are prepared to assert themselves still more emphatically during the present year, and certainly, so far as the filling up of space goes, their display will probably outdazzle those of all competitors. Of course, it is impossible with no more than a descriptive summary in hand, to anticipate either the verdict of public taste, or the decisions of the juries; but the fact cannot be questioned that France does devote a peculiar and ambitious genius to the development of these crafts, occupying, as they do, a position midway between the fine and the mechanical arts. The three divisions set forth principally include works in wood, mixed metals, and gold and silver, and those who remember previous exhibitions will not be disappointed. Moreover, as the different prefaces show, a distinct repudiation is made of those pretentious models by which, under the Consulate, the First, and even the Second Empire, antiquity was supposed to be illustrated. The Restoration took an equally ridiculous turn, and imitated the Renaissance. But a still worse fashion set in when, under the Citizen King, every order and description of people was desirous of appearing rich, and then set in the reign of casts, of plating, and of veneer. We have found this spirit rampant in every Exhibition, from long before 1851, and we shall find it domineering still in 1878. In one paragraph, introductory to a long list of objects which we are told to expect in a particular "Court," the admission is made that nothing, however new in detail, can now or henceforth be attempted without a reference, more or less general, to some favourite type, and the types named after the fourteenth and fifteenth Louis have not yet had their impressions removed from the gold, and silver, and bronze, and even the household furniture-work of France. Nevertheless, not going so far as that a certain historical consistency is maintained, since we have had always, and are sure to have again, the examples of Amboise, Fontainebleau, and Versailles itself, blended together, with less than the clearness of a mosaic, and all the incongruities of a curiosity-dealer's shop,—a spectacle which will be repeated at the Exhibition, and which we witness, on a reduced scale, in nearly every great modern mansion of Paris. The grand idea of late years appears to have been that of cheapening the markets of art. Now, it is an excellent thing to cheapen bread and wine; but cheapened art is too often degraded art, and can be nothing else, whether bestowed upon a needle-case or a picture-frame, by a copyist or a plaster-of-Paris modellist, by an amateur who hangs his walls with lithographs rather than go to the cost of steel engravings, or a mediævalist who prefers the price he pays for stained pear-wood to that which he would have to pay for ebony. Again, with respect to bronzes. The price-lists appended to the catalogue are practical exposures of shams. A rough blending of copper with zinc costs comparatively little, is of attractive aspect, may be tampered with so as to produce one effect after another, according to the desires of the *virtuoso*, and thus has it come about that what is called "the artistic metal," otherwise, "the barbarity of invention," holds so high a place in those mechanics' establishments which are dignified with the rank of "studios" in not a few quarters of Paris. But even to this depth there is a lower still, and bronzed plaster-of-Paris, or zinc from the roof of old houses, daubed over with a meretricious wash, satisfies the æsthetic wants of the Parisian, who, as one of his own countrymen says, with admirable candour, would rather have a paste-board Parthenon than none at all. It is not, of course, to be supposed that the administrative representatives of French art-industry at the forthcoming Exhibition will lend themselves to the converting of it into a sort of Parisian Lowther Arcade; and, still less, that there is not an abundance of genuine work to be placed in contrast with the fictitious, should the latter, unfortunately, find a place at all. The great house of Barbedienne, under whatever name it is now actually ruled, will, as we perceive from the roughly-draughted catalogue, not be absent, with its solid, pure, and highly-toned workmanship, wherein the human figure, especially, seems quickened into a keener life than even that which is suggested by the grandest outlines in marble. Those who remember the "Laocoön," the "Moses," the "Night and Day," and the "Dreamer" from the Barbedienne foundries, will anticipate that a quarter of a century's experience has not been thrown away by them. Those, of course, were studies from the Chapel of the Medici, in the Vatican, and, according to some critics, were, as copies, decidedly imperfect; but mere copying has never been the purpose aimed at, and it is simple pedantry to complain that we do not possess the exact copy of a copy whereof the original is lost. Necessarily the figures are reduced, by the mathematical process known in Paris as that of M. Collas, whose hand is to be visible again this year with his moulds of sand and wax, wherefrom he promises shall emerge a "Venus of Milo" in bronze, more perfect than any which the house of Barbedienne itself has hitherto produced,—cast in the "true metal of Corinth," which modern archæologists of no slight authority declare was not brass, but bronze. At all events, the Barbedienne cabinet is sure to be interesting. With it may be ranked the double group of MM. Clesinger and Cavalier, with their soft metallic draperies, dead-surfaced Mediæval armour, fierce warlike portraits, and figures of horses, which always look as if they were pawing a parade-ground rather than snorting and plunging amid the fires and thunders of a battle-field. M. Clesinger is an artist whom the French bronze-workers greatly admire; but we find catalogued side by side with him, such masters,—to appear, however, only at second-hand,—as Germain Pilon, Jean Coresin, and Jacques Sarazin, whose genius, it need hardly be said, has not been inherited by the bronze-workers of the nineteenth century, however scrupulous their employment of materials, or conscientious their study of models. With reference to the goldsmith's art, it was pointed out, five-and-twenty years ago, that Europe might have to wait long for the successor of Benvenuto Cellini. Benvenuto, of course, is not responsible for all the work attributed to him,—not even, perhaps, for all to which his name is signed. For he never gave his name to such a multitude of miscellanies as are here classified together, as though in an auctioneer's list, and offered as illustrations of the most modern of the modern goldsmith's art in France: chatelains, brooches, and salt-cellars among them,—very luxurious and superb, no doubt, yet suggestive rather of a window in the Rue de la Paix than of a cabinet in an International Exhibition. Again, he never contented himself with buying precious metals in the mass, distributing them among his artificers, and stamping each separate "masterpiece" with his sign-manual, as, from the merest glance at this gold and silver smith's inventory,—which is no improper epithet for it,—will be seen to be the case with many exhibitors, M. Christofle always excepted,—of the great bazaar Exhibition of May next. Not but that, in many historical instances, the artist-master has, so to speak, created a generation of artist-students, who have united his with their own fame, and transmitted them through a long posterity; but that the catalogue, in many of its pages, bears too plainly the resemblance to a price-list. To the revived practice of jewelling plate no reasonable objection can be taken. It was a habit with some of the greatest among the Italian gold-artists, and when governed by chastity of taste, adds a splendour to the purest work. We are promised, moreover, a reproduction, on a moderate scale, of the celebrated Venus, in ivory and gold, which grew into a myth of glory among the ancients; several smaller examples of that which was, at one time, reckoned as one of the lost arts,—the combination of ivory with the precious metal; and some images, in which are sought to be reproduced that process of blackening silver which, in one epoch of art history, was regarded as little short of a miracle, and which was usually associated with a prodigal employment of gems. Oxidised silver, too, takes a great range, in an infinite variety of forms; but, so far as can be judged at present, in imitations from Ghiberti and Michelangelo,—the bronze nymph at Fontainebleau, the Perseus at Florence, and copies from the heroic images of Feaicheres and Klagusenn at Dresden. These, we are assured, will be amply represented from the *ateliers* of the MM. Fleurant-Meurice, whose sculptured vases, in precious metal, are to occupy almost an entire court of the Exhibition; that is to say, in this especial department of combined art and industry. There are to be, as registered in the as yet uncirculated catalogue, services of gold, silver, and blended metal; fountains, with groups, caryatides of suggestive heaviness; fables from the Theogony of Hesiod and the idylls of Theocritus,—figures of from 6 in. to 6 ft. in height; and neither sculpture nor handiwork, but a medley between the two, which may be left, in order that a glance may be given to the studio,—for a studio it should be,—of the genuine cabinet-maker. In that category long lists appear of carvers in wood; of workmen who have fitted up, with their own hands, the new Parisian Palace of Industry; of libraries furnished according to the most scholarly tastes; and, more than that, of a working-class art industry, which will,—so it is predicted,—represent an advance far beyond that recognised in former Exhibitions. So far as can be judged from the barren tables before us, an immense amount of attention is bestowed upon Gothic or Louis Quatorze toys, while very little is given to public works of modern utility, or to modern habitations for modern Frenchmen to live in. French social wants appear to be at war with the French social arts in this as in not a few other respects.

Prescot Drinking Fountain.—In spite of the large amount of omnibus and cart traffic from Liverpool, St. Helen's, and other places daily passing through Prescot, no provision whatever has been made until now for supplying either man or beast, during their journeyings with a drink of good pure water. This long-felt want has at length been supplied by Mr. Samuel Peed, of Cambridge, for many years steward of the manor of Prescot. The gift is a drinking-fountain of bronze, about 3 ft. in diameter, let into the wall near the parish church gates. Mr. Peed's thoughtful gift is much appreciated.

THE THIRLMERE SCHEME.

THE Bill for providing Manchester with water from Thirlmere has been referred to a Select Committee for full consideration: the best course which could have been adopted. The refusal or the passing of this Bill may have a very important effect on the future of the water supply question; and in Committee the real facts of the case on either side will be elicited much better than in the process of discussion in the House, where there is so much opportunity for mere declamation by persons totally unacquainted with, or indifferent to, scientific facts. We may observe, however, that in the discussion which did take place on the second reading the practical side of the question was better and more decisively represented than we had expected; and, moreover, that one gentleman, Mr. Fletcher, who spoke from the point of view of a "Lake-dweller," distinctly supported the Bill on the side of sentiment also, as he observed that the acquirement of the district for watershed by Manchester, and which was not to be built upon, would protect it from the incursions of people who "built Gothic villas," and that, in fact, Thirlmere in this respect would be "a brand plucked from the burning."

Whilst referring to the subject, we have pleasure in recognising the exceedingly-sensible and all-round view of the matter taken by our contemporary the *Times* in its leading article of the 13th inst., and which re-affirms almost entirely the view of the case which was urged in our own columns (in the *Builder* for December 1st last year). It is so rarely that non-professional papers take a calm view of these matters and keep outside of popular cries, that we have pleasure in recognising the fact that while other journals, weekly papers of considerable standing especially, have been ranting and sentimentalising on the subject, the leading daily paper has had the sense to recognise the real practical importance of the case in regard to water supply, and the exceeding futility and onesidedness of a great many of the objections which have been raised against the scheme, and which the *Times* characterises as merely the dislike of some amiable persons to seeing anything altered which they have been accustomed to. The writer of the article also perceives, what Mr. Ruskin and the sentimentalists will not perceive, that there is a real intellectual interest imparted to a country by great engineering works in many cases, and that they are by no means necessarily sources of degradation and spoliation to a landscape.

We observe that in a more recent edition of the pamphlet of the "Thirlmere Defence Association," the only sentence in our article of Dec. 1st, which could be construed into an unqualified sympathy with the "Defenders" has been printed, among "opinions of the press," without the context, which would have shown its real bearing, so as to represent the *Builder* as an adherent of their views. This is a very old trick with tradesmen, but ought to be rather beneath the members of the "Defence Convention." We hope those who take any interest in the subject will read our remarks in full, and not accept us as among the champions of a body of perhaps well-meaning, but certainly very excitable persons.

THE NEW DECORATIONS AT THE BRIGHTON ROYAL PAVILION.

THE capacious suite of rooms that have been newly decorated were thrown open to the public on Monday (Feb. 18th), and visited by several hundreds of persons more or less interested in the Royal Pavilion, Brighton. The embellishments, which owe their origin to the late Sir Cordy Burrows, Alderman Brigden, and Councillor Friend, during their term of office on the Improvements Committee, are elaborate and effective. The colours are florid and harmonious, and the delineations show the ring of the pure French School, in which M. Armand D. Bouvard, the artist retained by the town, has studied. The state banquet-room is particularly picturesque; the huge palm-head full of fruit that expands in the lofty cupola teems with realistic beauty; the shades are strictly perfect, and the vengeful expression depicted on the enraged features of the gigantic flying dragon that, with wings expanded, appears fluttering beneath, is very natural. The cardinal points of the room are enriched by birds suspended by collars from the cornice carrying chandeliers pendent from the neck.

The coved ceiling at the extremities is decorated with arabesques, and these, for elegance of design, are some of the choicest in England. The entablatures of symbolical subjects in the other compartments are clever, as also the arabesques at the opposite extremes of the much venerated god-tree, that is held in such respect throughout this tea-growing country. The fibres of the herbage are minutely traced, and have excited admiration, as also the Chinese gallery, and the twin staircases; over these, on the north side, the decorations are interesting.

A bouquet of rich ripe exotic fruit protected by a pair of dragons gives the spectator an idea of John Chinaman's superstitious belief in demons. The south section, similarly guarded, contains a pair of enormous dragons in the act of executing the wrestler's grip, to terminate the deadly struggle that the clever painter has described more eloquently than by words. The centre of the gallery is remarkable for a graphic picture of the protective god of the Celestials against storms; the angry elements in retreat through the sky are shown by a couple of scorpions taking their flight. The walls of the corridors are a greenish grey, and finished in oil-colours. Upon them and the staircases 2,000 yards of canvases have been suspended, and over 3,000 different descriptions of vegetation peculiar to China are described by the aid of the pencil and brush with singular accuracy. The six large windows on the landings contain life-size figures of personages that abound east of the Caspian sea, costumed according to authorities. The paintings have been executed at a great expense, and the artist merits thanks. The surveyor is Mr. P. C. Lockwood.

NEW CHAMBERS IN THE TEMPLE.

VISIT OF THE ARCHITECTURAL ASSOCIATION.

ON Saturday afternoon last a large number of the members of the Architectural Association visited the new buildings now being erected for the Benchers of the Inner and Middle Temples respectively, and which occupy a commanding site overlooking the Temple Gardens, the Victoria Embankment, and the Thames. The buildings are situate on a site not far from the Middle Temple Library, having their main frontage towards the river. They comprise basement, ground-floor, and five floors above the ground level, the two uppermost stories being placed in the mansard roofs. The buildings may be said to be in two blocks, disconnected except at the centre of the principal façade, on the ground level of which is a handsome and elaborately sculptured archway leading through the building to, and in continuation of, Middle Temple-lane, although it is not at present in contemplation to admit carriages from the Embankment. The block to the east of Middle Temple-lane is the larger one, and belongs to the Inner Temple, being, in fact, a continuation southwards of Harcourt-buildings. The block on the west side is in continuation of the old buildings facing the west side of the lane on the east, and the Middle Temple-gardens on the west. The buildings thus consist of two blocks extending southwards, and united by a third block running from east to west, and carried over the foot of Middle Temple-lane by the archway already mentioned. The block plan of the new buildings is, in fact, an irregularly-shaped U. Besides the principal façade towards the south, there are the east and west façades, overlooking the gardens of the Inner and Middle Temples respectively. These façades are in Portland stone, with the exception of the basement, which consists of a massive grey granite podium, about 8 ft. high, battering from top to bottom. Access to the various floors is obtained by doorways and staircases entered from under the central archway on either side. The stairs are of Scotgate Ash stone, the staircase walls being covered with glazed bricks, those in the western block being white, supplied by Messrs. Cliff, and those in the eastern block of variegated greenish blue tints, and supplied by Messrs. Peart. The rooms on the various floors are arranged in suites of four in the eastern or Inner Temple block, and in suites of three in the Middle Temple block, the rooms over the archway connecting the blocks belonging, some to the Middle Temple and some to the Inner Temple, and entered from their respective blocks accordingly. Each suite of rooms will be provided with lavatories and water-closets, together with small rooms for the charwomen, or "laundresses," as they are called, who clean the chambers and light the fires. Although each set of chambers will be nominally let to only one occupant, that occupant will be free to sublet or share his chambers with two or more other barristers or friends. Very few of the occupants will sleep on the premises. The basement will be devoted to the storage of coal and similar purposes, lifts being provided from the basement level to the various staircase landings. All the floors and corridors are to be of Dennett's patent fireproof construction. The principal façade is agreeably broken up and diversified by large bay windows on either side of the central archway, and extending up through each story, the south-east and south-west angles being occupied by bold projecting pavilions, circular on plan. These pavilions and bow windows will afford exceedingly pleasant outlooks up and down the river. The circular pavilions will be surmounted by turrets, and the mansard roofs of the buildings will be broken up by gabled dormers. The buildings are being carried out under the joint superintendence of Mr. E. M. Barry, R.A., on behalf of the Middle Temple, and Mr. J. P. St. Aubyn on behalf of the Inner Temple; Mr. Barry, however, being the designer of the whole of the principal façades. Mr. G. W. Booth is the contractor. There are two contracts, that for the eastern block being 43,000*l.*, and that for the western block 33,000*l.* (each contract including a portion of the southern or connecting block), making a total of 76,000*l.* In the principal front, the central archway is flanked on either side by a massive pedestal and niche, intended to be occupied by statues in Portland stone by Mr. Calder Marshall. On the Middle Temple-lane side the archway will be flanked by two large lions *gardant*, carved in Portland stone. Mr. Mabey is the carver; Mr. Goodchild is the clerk of the works; and the contractor's manager is Mr. Houghton, who informed us that the German masons now at work on the building are giving great satisfaction. All the masons required have long since been obtained, and eight or ten applications per day are being made for work.

THE ENGLISH IRON INDUSTRY IN 1877.

A REVIEW of the English iron industry in 1877 which appears in the columns of the *Statistisches Correspondenz* deserves quoting in our pages, for several reasons. Its observations on the cause of the present depressed state of our iron trade are sensible and to the point, and they are accompanied by hints as to the direction in which its principal activity ought to be applied. But it also contains some astute remarks respecting its future prosperity. "The English iron industry," says the writer, "like that of the continent, during 1877, has been in a more depressed state than even in the preceding years. The Scottish pig-iron industry has especially suffered, the decrease in its production amounting to 121,000 tons, having fallen from 1,103,000 to 982,000 tons. The consumption of pig-iron in the Scottish foundries and forges, together with the quantities exported, reached only 840,000 tons, against 910,000 tons in 1876. Stocks have increased by 142,000 tons. As in Scotland, so in Lancashire, Yorkshire, Derbyshire, and Lincolnshire, the production of iron has suffered under the competition of Cleveland. The imports of Cleveland pig-iron into Scotland (from Middlesbrough to Grangemouth) have risen, within the last two years from 353,000 to 421,000 tons. The manufacture of pig-iron in Cleveland amounted to 2,100,000 tons, consequently to more than double the Scottish production. The competition of Cleveland has not only kept English buyers from the Manchester market, but has attracted also continental buyers to Middlesbrough. German and Belgian manufacturers of iron goods bought there in 1877 pig-iron, in order to sell their produce in the English market with advantage, notwithstanding the double cost of transport. The English manufacturers of iron goods, which only a few years ago commanded the markets of the world, have been compelled at the present moment to relinquish their place on the European continent as well as in the United States in consequence of native competition. But it would be a great mistake to suppose that

the export of pig-iron from Cleveland is a sign of a more favourable turn in the history of the English iron industry. Increase of exports is by no means inducive of a change favourable to the trade of a country. Assisted by exceptionally favourable conditions for production, Cleveland is able to produce annually large quantities of pig-iron; but the export of this raw material to countries where labour is cheaper withdraws from the English coal and iron trades a considerable profit, and the re-importation of the iron after its manufacture sends down prices in the English market to the loss of home manufacture. Thus it is known, for instance, that Belgian iron is used both in London and Glasgow for building operations, and that English railway stations, and railway buildings generally, have been roofed with roofing materials brought from abroad. These facts permit us to recognise that the English iron industry ought no longer, as hitherto, to direct its principal attention to the manufacture and technical employment of pig-iron, but that it is now imperative that it should turn its activity to increased production of pig-iron.

The decreased demand of the colonies for iron goods has also disadvantageously affected the production of England. Of rails, in 1876, 80,000 tons were exported to Australia, in 1877 only 30,000 tons; the export to India fell from 95,000 to 55,000 tons; in Russia alone the demand for English rails continued. Considering the merely temporary nature of the requirements of the Russian market, and the unfavourable financial position of India, these results are most discouraging.

The decline in the prices of coal and iron, together with the improved mechanical appliances, have influenced the English steel industry in a most favourable manner. But it is a vital question for English industry generally that it should be sure of the production of steel, the material of which is destined to regulate the industrial development of the future. The price of steel rails has fallen since 1873 from 18*l.* 10s. to 6*l.* 1s. The decline per cent. in price is not larger than for North English pig-iron, which in 1873 cost 7*l.* 5s., but in 1877 fetched only 2*l.* 1s.

Although the development of one branch of the iron industry may be most discouraging to the English producer, the predominance of the pig-iron manufacture and the steel industry in the markets of the world is at present assured. The iron industry, under the influence of the present crisis, suffers severely; but nothing warrants the belief that the latter will be permanent. Experience, on the contrary, shows that similar mercantile and industrial revolutions in the English iron trade recur regularly, mostly in intervals of ten years. If we compare its present state with the results obtained at the beginning of this decade, it will be seen that matters have not changed for the worse. During the last ten years the English iron industry has developed its productiveness to an extent previously unknown, which has enabled undertakers to realise large profits within a short time. It is hardly likely that a similar increase in the figures of production, as was witnessed in the years 1871—1874, will ever occur again, unless an unexpected activity in the construction of Indian, Australian, and New Zealand railways should set in. But if it is considered that English capitalists, after the sad experiences made in North, Central, and South America, will hardly feel inclined again to risk their money in foreign railway undertakings, it may be affirmed, with some degree of confidence, that, in place of over-speculation and over-production, something like a steady development of the iron industry will take place. The latter, although it will not bring large gains, accompanied, of course, by a high premium of risk, will insure to the undertaker a recompense and reward corresponding to his activity."

Holywell New Market.—At the meeting of the Holywell Local Board, on the 11th inst., the consent of the Local Government Board to borrow 5,000*l.* for erecting a market-hall was received. It was resolved that the thanks of the Board be presented to the Duke of Westminster for relinquishing the right to the market tolls on the payment of a small consideration and free from all legal charges. The plans of the proposed market and town-halls, prepared by Messrs. R. Scrivener & Son, architects, Hanley, were considered, and a special meeting of the Board for the same object was ordered to take place on the 21st inst.

SOME POINTS IN THE LAW RELATING TO THE ARBITRATION RULES OF BENEFIT BUILDING SOCIETIES.

THE first Building Society was established in this country in the year 1809, and therefore these associations are mainly a growth of the present century. Every year since that date they have been increasing in numbers and importance, and there is probably now not a town in this country, more than a village in size, which does not possess one or more of these societies. It is of the utmost importance, therefore, that the development of the law in regard to them should be carefully chronicled, for it is by legal decisions that the Acts relating to them have been interpreted and points of any doubt made clear. The Building Societies Act of 1874 (37 & 38 Vict., cap. 41) put into a new and compendious form a great part of the law regarding these associations, but whilst it thus, in some respects, forms a new starting-point in the history of Building Societies, the large majority of cases which were decided upon the previous Acts, namely, 10 Geo. IV., cap. 56, and 6 & 7 Will. IV., cap. 32, are either directly or indirectly in force. But there is a little fact connected with the most recent Act which is worthy of notice here, even if only to show the haphazard fashion in which a great deal of the legislative work of this country is performed. In 1875 a second new and small Building Societies Act was passed. And for what purpose? Because the words of section 8 of the principal Act, whereby existing societies not having a certificate of incorporation were deemed to be societies under the Building Societies Act of 1874, "were inserted through inadvertence." Such a clear and culpable slip shows how exceedingly carefully all those who have to do with legislative measures should watch their progress through the legislature, otherwise clauses will be inserted, and may become law, "through inadvertence." We propose to return from this slight digression, to point out now the results of certain recent decisions upon the question of arbitration in disputes which may arise between Building Societies and their members, and even if the recent cases, to some extent, reiterate well-known principles, these can never be too firmly grasped by all whom they may concern.

The point upon which we wish to touch is a decision of the Master of the Rolls, delivered in the course of last year, in the case "Wright *v.* The Monarch Benefit Building Society" (46 *Law Journal* Reports, Chancery, p. 649), a case which one feels astonished should have come before a judicial tribunal at all, so plain does it appear, but which will no doubt be of service in preventing further attempts by members to break through rules to which they have subscribed. Mr. Wright was a member of, and a shareholder in, the above society, and had conveyed to it certain property, by way of mortgage, in order to secure the repayment of various sums lent to him by the society. He had subsequently sold this property, and averred that in order to complete the sale he had been compelled to pay certain sums to the society which were not due: accordingly he came before the Master of the Rolls to obtain an account from the society, and payment to him of any sum that might be due. But it was proved that all disputes were, according to the rules, to be settled by arbitration, and section 21 of the Act distinctly states that "The rules of a society shall be binding on the several members and officers of the society, and on all persons claiming on account of a member or under the rules, all of whom shall be *deemed and taken to have full notice thereof.*" And it will be observed from the words which we have placed in italics, that even if a member does not actually know the contents of the rules of a society to which he belongs, he is presumed to be aware of them, and therefore it is of the utmost moment that persons should be cautious in their dealings with societies. For it need hardly be said that in this case the judge, in the most emphatic manner, held that Mr. Wright was bound by the rules of the society of which he was a member. He may, as regards the accounts have been thoroughly in the right, but it is evident that makes it all the more necessary to avoid hasty dealings with societies; for where the rules say that disputes are to be referred to arbitrators, to arbitrators they must go, and no court of law has any jurisdiction in the matter. In this instance we have witnessed a member in the wrong. In the case to which we next turn as an illustration will be noticed a warning to the society as such in the manner of carrying on its business. This decision was one of the Court of Common Pleas in 1875—Prentice *v.* London and others (44 *Law Journal* Reports, Common Pleas, p. 353), given, as will be observed, after the Act of 1874 was passed, but this society was registered under the previous Act, which contains very similar provisions as to arbitration. The plaintiff was the transferee of certain shares in the society, the defendants being the trustees of the Albion Mutual Benefit Building Society. The transferor had parted with the shares to Mr. Prentice, but the society, in consequence of the misconduct of the former holder, considered that they were forfeited. When, however, Mr. Prentice brings an action to recover their value, the society plead that the matter ought to be referred to arbitration. But the principle which we mentioned in the previous portion of our remarks, that disputes, when the rules said they were to be referred to an arbitrator, must be so referred, is limited by the fact that the disputes must arise between members *as members*, or between the society and a member *as a member*, and that the subject matter of the dispute should relate to the affairs of the society. Now, it must be obvious that the question whether a man is or is not legally a member of the society does not fall within the limitation. It is, in fact, a question as to his admittance to the position which, when it is attained, will then, as one of its elements, oblige him to submit disputes to arbitration. The rule upon which the decision in the present case turned was materially as follows:—"Should any dispute arise respecting the construction of these rules, ... such dispute shall be referred to arbitration." But in addition to the singular contradiction in the defendants' case, namely,—that in one portion of it they denied the membership of the plaintiff, and in another asserted that he was bound to refer his dispute as a member to arbitration, the question, as Mr. Justice Brett observed, was "whether Mr. Prentice was lawfully a member, therefore the statute and rules as to arbitration do not apply." Thus we have here at once an instance of the extent to which the arbitration question is carried, and its proper limits, and also a clear misunderstanding by the directors of the laws and rules governing a building society, with which they, of all persons, should have been thoroughly and accurately acquainted. Other cases might be referred to to make this example even more clear; but we purpose only to take one, in order to point out an instance of the working of the exception that, not only must the disputes be between the members of the society and the society in order to be referred to an arbitrator, but that the subject matter in dispute must relate to the affairs of the society. This was the case of Morrison *v.* Glover, decided by the Court of Exchequer in 1849, but which is still regarded as a leading case on this subject. There the defendant had mortgaged leasehold land to the plaintiff and others, who were the trustees of a building society, and had covenanted to pay the ground-rent to Lord Cadogan. This he failed to do, and the trustees accordingly brought an action against him for breach of covenant, which the Court decided they could do, and that the rules as to arbitration were not applicable, since the dispute arose between these persons, not as members of the society, but simply as mortgagor and mortgagee; for it will be observed that the reason for the decision was that the matter did not touch upon the positions occupied by those persons as members of a society,—in other words, it was an independent transaction. At the same time, we are inclined to think that, with the somewhat wider views of the judges of to-day, it would very likely be that in a similar case, except for the fact of the precedent, such a dispute would have been considered sufficiently a matter relating to the society, so as to enable the arbitration rules to take effect; for a very wide distinction seems to us apparent between this illustration and that last given, in which it was purely a question of the right to membership. At the same time, the principle of the case of Morrison *v.* Glover was expressly and by name affirmed in the case of Prentice *v.* London, and therefore, whether the application be good or bad, the principle is certainly sound, and a portion of the existing law, and as such must be borne in mind by those who are concerned with building societies. If this general principle as to arbitration, with the limitation which we have

pointed out, be properly understood by those, on the one hand, who are simply members, and those, on the other, who have the direction of these societies, their usefulness will be increased, and much vexation and loss of money will be avoided.

CHAMBERS IN THE CHALK.

WHAT seems a curious discovery has just been made at Eltham Park, in the immediate vicinity of one of the ancient royal palaces of England. The authenticity of the discovery may not be doubted, we believe, being vouched for by Mr. Thomas Jackson, holder of the demesne of Eltham Park.

Within the last few days Mr. Jackson employed some of his workpeople to discover, if they could, the cause of leakage in his water-supply pipes. Prosecuting reseaches, they came upon a brick-lined drain, 2 ft. 9 in. square, the existence of which had never before been suspected, the course of which they followed, and, to their amazement, found it to end at the top of a shaft 5 ft. in diameter, and no less than 140 ft. deep. Due precautions having been exercised, the shaft was descended, and seemed to be of much older construction than the drain that led to it. The first 70 ft. of the shaft, or thereabouts, is lined with brick, and for 35 ft. lower with blocks of chalk, about the size of bricks; below this distance,—about 105 ft.,—the shaft has no lining, but is cut in the solid chalk. From the bottom of the shaft a large chamber is entered by an archway 6 ft. high, by about 30 in. wide, cut entirely out of the chalk. This gives admission to a chamber 66 ft. long by 33 ft. wide, and 8 ft. high; that is also cut out of the chalk, with bands of flint showing horizontally round it. The roof, which is flat, is supported by three pillars running along the centre, and eight others projecting from the sides of the cavern, all of these pillars, as the cavern itself is, being cut out of the chalk. A few bones, apparently of cattle, were found in the cavern, and several iron nails driven into the wall at various places, with an iron bracket, supposed to have been placed for the support of a lantern, torch, or candle. The shaft was closed at the top by a brick arch, the crown of which reached within about 6 in. of the grass, yet, strange though it may seem, Mr. Jackson states that none of the people working on the estate, their recollection carrying them back for fully fifty years, had any knowledge whatever of these curious subterraneous structures and excavations. The character of the bricks, nails, and the form of the iron bracket, may be a clue to antiquaries in coming to some conclusion as to the original and subsequent uses of this singular excavation.

Eltham, as our readers know, is a place of considerable historical interest. In its churchyard are interred the remains of Dr. George Horne, Bishop of Norwich; Sir W. Baines, bart.; and Doggett, the comedian, of coat and badge celebrity. The registers date back to 1580. In the time of William the Norman the manor was part of the possessions of Odo, Bishop of Bayeux; on his disgrace it passed into the hands of the Crown, and partly of the Mandeville family. Edward II. resided here. In the ninth year of his reign his queen gave birth to a son—John of Eltham, brother of Edward III., who (Edward III.) held his Parliament twice at the Palace of Eltham, and there entertained with great pomp and magnificence King John of France. Eltham Palace continued to be a favourite place of abode for sovereigns of the Plantagenet, Lancaster, York, and Tudor lines up to the time of Henry VIII., who gave his preference to Greenwich Palace, although he still continued to reside occasionally at Eltham.

MASONS' STRIKE.

SIR,—The following is a copy of notice given to *employés* in the firm of Messrs. Moslin Bros. this day, and if you can find space in your valued paper for the admission of the same, we shall be greatly obliged, as we understand that many of the large firms have acted on the same principle this week:—

COPY OF NOTICE.

"As we are of opinion that it is quite time the present strike of masons came to an end, the only possible advantage that is very likely to be derived is to keep the idle in idleness,—we therefore give notice that we shall not pay the 10d. per hour after Friday, the 22nd inst."

MOSLIN BROS.

16*th February*, 1878.

NOTES FROM LIVERPOOL.

At a meeting of the Mersey Docks and Harbour Board on the 14th instant, it was resolved, on the recommendation of the Works Committee that a communication be made to the directors of the Lancashire and Yorkshire Railway Company with a view to ascertain what accommodation in the shape of land and other conveniences they might require from the Board to carry out a proposed scheme for the widening of their line of railway at and towards the junction with the present high level railway. Mr. Harrison, the chairman of the committee, in moving the adoption of the recommendation, said that increased facilities for shipment of coal could be obtained much earlier in the way proposed, and at considerably less expense than in any other way. At present the facilities at Bramley-Moore and Wellington Docks admitted of about 9,000 tons of coal per week in the winter season being shipped, and about 11,000 tons per week in summer, and the total in the year was taken away by a fleet of about 600 vessels, and something like 2,000 flats. It would be much better if this fleet of vessels and flats were accommodated at the Salisbury and Bramley-Moore Dock entrances than at the north docks, and if the proposed increased facilities were given, the working of the north docks would be much simplified, and it might render the construction of the northernmost dock unnecessary, at all events for a long time to come. The Board would thus have at their disposal at the north end a large area of land for any purpose, which they could use for the storage of timber if the Board so decided, and thus give early relief to the timber trade, which is, and has been for some time, very much hampered by want of room. Mr. Kellock said it was most desirable to obtain increased accommodation for the coal trade in Liverpool. Last year there were shipped only 404,350 tons of coal from Liverpool, with the Lancashire and Yorkshire coalfields close at their own doors, whereas on the Birkenhead side there were shipped 1,413,000 tons.

The Liverpool Town Council recently agreed to allow pictures by Sir John Gilbert and Mr. A. D. Fripp, belonging to them, to be sent to the Paris Exhibition, and at the meeting of the Council on the 16th inst. a letter was read from the Prince of Wales, the president of the English Commission, asking for the loan of "Serf Emancipation," by Mr. E. Armitage, who has expressed his desire that it should appear in the Exhibition. The request was unanimously acceded to.

THE ARCHITECTURE OF NORWAY.

SIR,—It seems evident, from the account of the architecture of Norway, as brought before the Royal Institute of British Architects at two of its recent meetings (see the *Builder*, pp. 91 and 161, *ante*), that the author of the paper on the first occasion, and those who took part in the discussion on the second occasion, had but imperfect knowledge of a very important source of information relative to the subject, namely, the folio book entitled in its English title-page, "The Cathedral of Throndheim. Published by order of the Norwegian Government. Text by Professor P. A. Munch. Drawings by Architect H. E. Schirmer. Christiania. Printed by W. C. Fabritius. 1859." This book, which is really a fine book, and which got into England early in January, 1860, consists of forty-eight pages of text, Norwegian and English in parallel columns, and thirty-one grand plates, engraved by our own J. H. Le Keux in his boldest and most effective manner. The plates, or some of them, for the Norwegian Government book has *plans*, were probably laid before the meetings referred to, for Mr. I'Anson in his paper mentions, "a work on Throndhjem Cathedral, well illustrated, but undated, and without letterpress, containing perspective views, and many details, drawn by Shirman [*sic*], and engraved by Le Keux [but no plan], which is in the Institute Library."

If we English are not more acquainted with what has been written on Norwegian architecture than we are, it is not for want of help from the learned men of Norway; for in their anxiety that their labours on the architecture of Norway should, as far as possible, be set completely before English people, they have for many years past been in the habit of publishing some of their contributions to the subject, which they evidently deemed to be of interest to both nations, not only in their own language, but in their own language side by side with an English translation thereof.

With regard to the question of the introduction of the use of stone for Norwegian buildings, and without entering into detail connected with exceptions, it may be stated generally that the opinion of Scandinavian learned men would seem to be, that while Paganism reigned throughout their lands all buildings were constructed of timber, and that a significant change from timber to lime and stone took place on the introduction of Christianity,—that is, in the beginning of the eleventh century. On this point M. Nicolaysen's "Norwegian Buildings from Former Times" may be consulted.

E. C. IRELAND.

SUGGESTED CONFERENCE ON WATER SUPPLY.

H.R.H. THE PRINCE OF WALES, president of the Society of Arts, in a letter to the Council of that body, says:—

"Our great cities and populous towns, such as Manchester, Liverpool, Birmingham, and others, are, each for itself, taking steps to obtain an improved and increased supply, whilst the metropolis is seeking further powers from the Legislature with the same object in view. The smaller towns and villages are dependent on accidental sources of supply, and in many instances these are wholly inadequate for health and comfort. While the larger populations are striving, each independently and at enormous cost, to secure for themselves this article of prime necessity, the smaller localities must make the best shift they can, and in many instances are all but without supply at all. Under these circumstances, I would draw the attention of the Council to the subject, and suggest whether, at the present time, great public good would not arise from an open discussion of the question in the Society's rooms, with a view to the consideration of how far the great natural resources of the kingdom might, by some large and comprehensive scheme of a national character, adapted to the varying specialities and wants of districts, be turned to account, for the benefit, not merely of a few large centres of population, but for the advantage of the general body of the nation at large."

The Council has appointed a committee to take into consideration the best means of carrying into effect the suggestions thus made.

WATER SUPPLY.

SIR,—By some accident my letter of the 9th inst. got contaminated by a paragraph of quite foreign matter. My question with respect to our water supply was simply whether it is absolutely necessary to allow heaven's pure outpour to be sullied through all kinds of channels before we stoop to drink and quench our thirst? Are there no means of collecting it uncontaminated and fresh from the fountain head? The clouds are the real fountains of pure water. The purged and liberated vapour descends as unsullied snow upon the Alps, and as crystal water at lower elevations. To collect rain-water fouled by a London atmosphere is, however, by no means my project. This would be but to escape the ditch to fall into the gutter. My project is to create clean water-sheds on elevated districts sufficiently wide of London. I would make artificial mountains to receive the rain, by paving sufficient areas on the plateaux, lying at a proper distance from towns and cities, with slate. These paved areas would have proper water-courses to convey the rainfall to reservoirs. Hill tops, and hill sides having gradients too steep to be available for husbandry might be so utilised. Different means might be required to effect the same end under different circumstances.

METER.

Proposed Improvements at Walmer.—A meeting of the ratepayers of Walmer has been held to confer with Major Hector Tulloch, R.E., the Government inspector appointed to hold an inquiry regarding an application of the Walmer Local Board for the sanction of the Local Government Board to the borrowing the sum of 2,600*l.* for sewage works for the drainage of Upper Walmer, and of 1,000*l.* for street improvements. It was stated that the sewage would be discharged into the sea, and that no land would be purchased; the outfall being laid at the level of low-water mark. A petition against the proposed drainage scheme, signed by about twenty-five ratepayers and owners of property, was handed in, and it stated that the drainage was not required, the different properties which the scheme would embrace being "well supplied with cess-pools." The Inspector stated that the objections raised were not valid, and he must of necessity sanction the drainage works.

SOIL-PIPES AND SEWER GAS.

SIR,—Having been asked to state my views with regard to Mr. Norman Shaw's method of dealing with soil-pipes, perhaps you will allow me to say a few words in your columns.

In the first place, I take it as an accepted fact that all the leading sanitary authorities of the day are agreed that the three following principles ought to govern the treatment of all soil-pipes in connexion with dwelling-houses:—

1. That every soil-pipe should be disconnected from the underground drains in such a way that no sewer gas can pass from the drain either into the soil-pipe or into the house.

2. That from end to end of all soil-pipes, whether inside or outside the walls of a house, fresh air should be passing continually, instead of foul air being continually bottled up in them, as heretofore; which is the case, in spite of their being left open at the top, whenever they are not open to the air at their lower ends too. Pipes that have been so treated from the first will never, I believe, get sufficiently foul inside to give an offensive odour to the air passing through them, and will certainly never impregnate it with the germs of disease, provided the closets are supplied with water enough to flush them properly at each discharge, and that a sufficiently rapid fall is given to the branch from the closet to the soil-pipe. Such soil-pipes are, in fact, air-pipes for the whole twenty-four hours of the day, less the few seconds occupied by the descent of sewage matter.

3. That a trap of any kind attached to a closet-pan is a delusion and a snare, whether ventilated or not ventilated, being simply a means of retaining within the walls of a house sewage matter which ought to pass out of the house at once. I hold that the above points have now passed beyond the region of argument into that of practical experience, as numbers of private houses and public institutions bear ample witness to; therefore it would be mere waste of time to try and meet the objections of those who are not in a position to show that they have more reliable grounds for argument than are derived from the exercise of their own imaginations. Well, does Mr. Shaw's plan fulfil these conditions? I think there is no doubt that it does, provided that the drain into which the disconnecting syphon-trap discharges is thoroughly ventilated; if not, then special means must be taken to prevent sewer gas from forcing its way through the water in the trap. This is a point which appears to have been overlooked by Mr. Shaw, for his drawing shows no safety-pipe on the sewer side of his syphon-trap. I call it a safety-pipe, because it is only used for private safety, and not as a means of ventilating the public sewer. I do not say that in all cases it is absolutely necessary, but I do say that in all cases of badly-ventilated drains it is safer to put one in, and there are many cases in which its omission would be a fatal mistake. Sometimes a specially-jointed rain-water pipe may be used for the purpose, but it must always discharge well away from any window or flue, whether for air or smoke; and being only a safety-valve, a 2-in. or 3-in. pipe will be large enough. It cannot be too often repeated, that sewer gas under pressure passes readily through water. In a case I had lately to deal with in London, the safety-pipe was temporarily stopped by a man who was working unpleasantly close to its outlet, the result being that the gas came bubbling through the water in the syphon trap with such force that the surface of the water was covered with a froth at least 2 in. thick. It was a case in which seeing was by no means necessary to believing; for the stench was unbearable, and yet the former occupier of the house had had the same thing going on constantly within the very walls of his dwelling, which, perhaps, accounted for the fact that every window and door had been fitted with special ventilators, and a ventilating pipe run up from the top of the soil-pipe,—all in the vain hope, no doubt, of curing an evil, the source of which was a hidden mystery.

With regard to minor details, there are one or two points in Mr. Shaw's plan that I would notice: one is, that the syphon-trap should be readily got at for inspection; another, that any gas finding its way through the unguarded water-trap is directly invited to enter, first, the open mouth of the soil-pipe, and then the open mouth of the branch leading to the closet, for they are both placed in its direct course; and a third, that the hopper-head seems to require a cover, arranged so as not to interfere with the free passage of air, since people who are not enthusiasts on the subject of soil-pipes would not care about watching the system in action from their upper windows; whilst not only might birds look upon it as a good place for a nest, but ingenious children would be very likely to exercise their skill by pitching things into it from the windows above, or from the ground below.

Subject to the above remarks, I believe that Mr. Shaw's plan will be found to answer its purpose as well in the future as it has done for the past two years. At the same time, I do not think it can claim the merit of being simpler than several other methods in use for attaining the same end; whilst the fact of air which has passed through a soil-pipe being liable to enter in at your windows, however harmless and inodorous it may be, would be a serious objection in the eyes of most people, and one which no amount of reasoning would overcome, since the final end of their argument would be, "The idea is quite enough; I prefer its being done in some other way"; and since there is really no necessity for hurting any one's feelings of propriety, I do not think that the open hopper-head, which is the only special feature in Mr. Shaw's drawing, will ever be generally adopted, though in particular situations, as against blank walls, out of sight, it may here and there be introduced.

In my own house I have adopted Banner's system, the perfect working of which is undeniable, owing to the extracting force of the cowl, which draws the air down through the closet-pan when the valve is open.

As regards other so-called systems, they are nearly all of them derived from the same source, whether they adopt an extracting cowl or not. It is to Mr. Banner's persistent advocacy of the system he first applied to his own house that we owe the fact that it is no longer considered necessary to put up with sewer gases in our houses in return for the convenience of indoor water-closets; nor do I ignore the great claim which I believe Mr. Buchan has upon our gratitude for his success in the same field north of the Tweed. That the system of open ventilation will be more generally extended to underground drains than it is at present, I feel convinced; it is being carried out in several places at the present time, all the branch drains leading to the sewer being open to the air from end to end, so that the syphons cutting off the drains from the soil-pipe require the addition of no safety-pipes to guard them from being forced. I am even sanguine enough to believe that the time will come when we shall be able to stand near any of the street gullies in Regent-street, on a hot summer's day, without being poisoned by pent-up sewer gases discharged through their iron gratings.

H. C. SEDDON.

P.S.—Since writing this letter I have read Mr. Ernest Turner's account in your last issue, of some experiments made by him at Mr. Shaw's house, the results of which are precisely what I should have expected, and completely bear out the views I have expressed above.

SIR,—Mr. Norman Shaw is right in having a ventilating opening in his soil-pipe at the bottom level with the ground; wrong in having an opening in the height under his windows; wrong in not continuing the pipe above the parapet or roof; wrong in not carrying a ventilating-pipe from the top of each branch soil-pipe upwards into the main pipe continued; and wrong in in using closets without traps.

What takes place is this:—The current of air which enters the soil-pipe at the bottom escapes at the opening in the height, charged with the effluvium generated within the pipe. As this opening is close by the head of the window, and directly under three or four others, the foul air flowing out of the opening is drawn into the house through the windows. Also, as the branch soil-pipes have no ventilating pipes from them, they are charged with the effluvium generated within them, which effluvium puffs into the house through the closets every time the valves are opened, as the closets are without traps.

The experiments made by Mr. Turner and Mr. Shaw with the pipes in question confirm the above, which was written before the experiments were made, and teach this lesson,—that it is a mistake, and likely to introduce noxious effluvium, and consequently disease, into houses, to use closets and sinks without traps, branch soil-pipes without ventilating pipes from them, and main soil-pipes with openings or terminations near windows.

It is not generally known,—but it is a fact,—that all soil-pipes of lead and iron do become more or less coated with filth, and corroded or perforated by the gases which generate within them. I have largely used, with success, 4-in. and 6-in. glazed stoneware pipes for soil-pipes, which do not coat nearly so much, nor corrode at all; but great care must be taken to make the joints perfectly air and water tight. Such pipes can be specially made in 3 ft. and 4 ft. lengths, and they may be built in walls, and tightly jointed as the walls are carried up, leaving junctions at points in the height for pipes from closets and sinks. Such pipes may also be used, in like manner, for rain-water pipes from roofs. They are cheaper than lead or iron pipes, never require painting, do not choke up or leak, and may be made accessible at the bottom and top and in the height. I have used them very largely for this purpose with great success.

JOHN PHILLIPS.

MR. NORMAN SHAW IN REPLY.

SIR,—I had not intended to trespass on your space again, but I must ask you to allow me to make a few remarks in answer to Mr. Ernest Turner's letter of last week.

The account of his visit to my house is in all essentials accurate, but I am unable to agree with the conclusions at which he arrives.

In the closet with the long arm he "could not detect any smell"; the other, which, as he suggests, a previous visitor had used carelessly, was certainly, for the time, down to the level of an ordinary closet,—no better, and no worse.

Then we had the "smoke test" to our heart's content. When ozone paper was burned under the open end of the soil-pipe, the smoke issued from the top in a fine dense cloud, enveloped the back of the house, and blew about in all directions. If we were to be invaded in a similar manner by a torrent of sewer gas, I fear it would indeed be all up with us. Of course it was not for me to suggest tests or dictate in any way, but I could not help being quietly amused at the fact that these experiments, interesting though they were, were all performed on the *wrong side of the trap*. The underground trap, put in for the purpose of intercepting the flow of gas from the sewers, and which is the backbone of most systems, was quietly ignored. This trap may very fairly be compared to the fastenings we put on our entrance-doors (not impregnable, perhaps, but on which we all rely for a very considerable measure of safety), but imagine any one standing on the *inside* of the door and asserting that locks and bolts are of no use, as from the position he then occupied he could wander all over the house at will! To have made the experiment in any way conclusive, the gallipot, free of bad smell, should have been in the drain,—on the other side of the trap. We should then have seen how much would have passed the trap, how long it would have been about it, and whither it would have gone when it had passed.

Again, when we went to smell the fumes in the closet, as Mr. Turner says, the water had been previously run off, so that the pan was dry, or nearly so. We pulled up the handle with as much caution as if we had expected to find a ferocious rat concealed on the underside of the valve. Fumes of ozone paper were in the pipe, and so some came out; but had the pan been in its usual condition,—namely, half full of water,—when the handle was raised the water would have driven all before it, and we should, as before, have failed to detect any smell. I cannot help thinking that Mr. Turner's experiments are inconclusive. On his own showing, an open soil-pipe that had been in constant use for two years was so sweet that he failed to detect any smell in it (and it must be remembered that it is open soil-pipes that we have been discussing). The "smoke test" was not satisfactory, as it was applied in the wrong place. A longer trial may yield different results, but at present Mr. Turner's report appears rather to confirm my experience.

R. NORMAN SHAW, R.A.

Birmingham proposes to furnish its free libraries handsomely. At a meeting of the Town Council on Tuesday the Free Libraries Committee were empowered to spend 11,000*l.*, in addition to a like sum formerly granted.

THE LEATHERSELLERS' NEW LIVERY HALL.

THE Worshipful Company of Leathersellers are erecting a new Livery Hall and other buildings on a site of land covering an area of about 7,000 superficial feet immediately adjoining their present hall in St. Helen's-place, Bishopsgate-street. For the purposes of the new building, the Company's Almshouses, and a number of offices adjoining, have been cleared away. The principal elevation and entrance to the new building will be at the extreme east end of St. Helen's-place, facing the south, and about 40 ft. in length, but the extreme length of the building, after passing along the corridor, through the main entrance, is upwards of 100 ft. The St. Helen's-place frontage, which a little more than 30 ft. in height, consisting only of the ground-floor, is entirely in Portland stone enriched with ornamental carving. The entrance is at the east end, under an archway surmounted by a pediment, above which are the arms of the Company, the west angle of the elevation being surmounted by the figure of a griffin. The central portion of the elevation terminates with a balustrade; whilst on each side of the entrance, and also at the west end of the frontage, fluted columns are carried up. The entrance leads into a corridor, 12 ft. in width, and 56 ft. in length, on the right hand side of which is a cloak-room, 32 ft. by 15 ft., together with lavatories. From the corridor the reception-room is approached. This apartment is 39 ft. by 27 ft., and it is intended to be elaborately finished. On the left side of the corridor, immediately opposite to the reception-room, is a vestibule, 16 ft. by 9 ft., through which the grand new hall of the company is entered. This apartment is 73 ft. long by 37 ft. wide, and is exceptionally lofty, being 35 ft. in height. On the west side is a very large and massive bay-window, by which the apartment is mainly lighted. The hall is intended to be internally finished and decorated in an artistic manner. It will have a flat ceiling, in panels, with enrichments. A dado, 6 ft. in height, will be carried round the walls, whilst the upper portion of the mural decorations will harmonise with the artistic character of the ceiling. In the centre of the ceiling there will be an ornamental ventilating-shaft. The elevation of the east end of the building, running north and south, and facing the present hall of the company, is in white glazed brick, with Portland stone dressings. All the chimney-shafts are in red brick. The upper story of the building will contain the kitchens, culinary department, and stores, together with the keeper's residence.

The architect is Mr. Andrew Wilson, of East-India-avenue, and the builders are Messrs. Ashby & Horner, whose contract is 16,000*l.*, but it is understood that, with the decorations, the building will cost a much larger sum. Mr. James Hayes is the general foreman of the works.

RICHMOND WATER WORKS.

THE CIVIL AND MECHANICAL ENGINEERS' SOCIETY.

A LECTURE, illustrated by diagrams and drawings, was given before this Society on the 7th inst. by Mr. Alfred F. E. Grant, on the supply of water to the town of Richmond, in Surrey. After some early history, the permanent works were described thus:—

The pipes were all, before leaving the works, tested to a pressure equivalent to a 600-ft. head. They were, when hot, coated with Dr. Smith's patent solution.

The reservoir is situated in Richmond Park, and is 110 ft. 4 in. by 108 ft. 4 in., and 10 ft. 3 in. deep from the springing of the groining for the bottom to the springing of the covering arches, which are 9 in. brickwork, and are 11 ft. span; the spandrels are filled with concrete; the side walls are 18 in. thick; the reservoir is built on a bed of concrete 9 in. thick. It is rendered in Portland cement ½ in. thick on the bottom and side walls. It is constructed to hold 750,000 gallons, was seven months in building, and was opened on December 20, 1876.

The Well.—It was originally intended to sink only one well at Richmond down into the chalk, and to place the pumps in this well; it was deemed advisable afterwards, however, to sink another well,—a pumping well,—to a depth of only 140 ft., and to place the pumps in this well, and to connect the same with the main well by means of a 14-in. cast-iron pipe, with a sluice-cock upon the same.

In boring, the chalk was hit at 263 ft. 6 in. from the surface. The well for the first 170 ft. is 7 ft. 6 in. diameter, and is lined with 9-in. brickwork in cement from this point for the next 40 ft. Cast-iron cylinders, 6 ft. 6 in. diameter, are next used, and then to the bottom of the well 5-ft. cylinders are used.

Engines and Boilers.—The engines are beam, compound, condensing, high and low pressure, fitted with variable expansion gear.

TERMINABLE BUILDING SOCIETIES.

SMITH AND OTHERS *v.* SIDDELEY.

THIS case, heard in the Court of Appeal on the 12th inst., before Lords Justices Bramwell, Brett, and Cotton, was an appeal by the plaintiffs from the judgment of Justices Grove and Lindley on a special case.

The plaintiffs were trustees of the Second Bowkett Building Society, established at Liverpool in 1865, under the provisions of 6 & 7 William IV., cap. 32. The action was brought to recover a sum of 213*l.*, alleged to be due from the defendant, an advanced member of the society. The society had for its object the raising by monthly subscription shares of the value of 120*l.* There were two classes of members—the advanced or invested members, and the unadvanced. Altogether, there were 199½ invested shares in the society, and 135 purchased shares. The defendant on the 13th of September, 1865, had purchased and had advanced to him thirty shares of the society, at 61*l.* 5*s.* per share, and on the 11th of May, 1866, executed a mortgage of some houses belonging to him in Burleigh-road, Liverpool.

The question raised by the special case was substantially whether by rule 33 the defendant had a complete answer to this action. Rule 33 professed to provide in its terms for what might be called a winding-up of the society in its eleventh year. In October, 1876, the period mentioned in Rule 33 for the existence of the society had elapsed, and the first question was whether, under these circumstances, the defendant was released from his liability to pay his subscriptions on a share.

The defendant contended that he was released from payment by the eleven years having elapsed; whereas, the plaintiffs, the trustees in the action, sought to show that the liability to continue the payments remained until the actual winding-up in about two years' time. The case having been decided against the trustees of the society, they now appealed.

The appeal was dismissed.

ACTION FOR NEGLECT OF SANITARY PRECAUTIONS.

ELLISSEN *v.* LAWRIE.

THIS was an action (Exchequer Division, before Mr. Justice Hawkins) against an architect and surveyor, who had been employed by the plaintiff to design and superintend work and repairs to be done to the plaintiff's house.

Mr. Talfourd Salter, Q.C., and Mr. Ledbury appeared for the plaintiff; the defendant conducted his own case.

The circumstances were somewhat peculiar. The house in question was at Maida-hill, and before the contract was entered into one of the plaintiff's children who resided in the house died, and in consequence the plaintiff determined to have the sewerage arrangements examined and put into a state of complete repair. The defendant was employed for this purpose, and he was to prepare designs and superintend the carrying out of the work, and Messrs. Holland, who made a tender, were employed by him to do the work under his supervision.

The repairs were completed in the autumn of 1872, when the plaintiff and his family returned to the house. There was one room on the second-floor, which from this date until the end of 1875, was used as a lumber-room, but then was converted into a day nursery. In the spring of 1876 two of the children who used the nursery fell ill, and in September of the same year, on the plaintiff's family returning from the sea side, another child suffered from ulceration of the throat. The plaintiff's wife and the nurse who attended the child were also ill, and on their recovery, by the doctor's advice, the family removed from the house. It was then discovered that the front ventilating-pipe had been carried through the nursery inside the wall, and was covered over by boarding and papering. The pipe, which was a new one, passed from the sewer, and for some distance ran up the outside of the house, but then turned inside and passed through the nursery. It was there severed, the joint being within the room; but the end of the upper pipe had been simply placed in the lower, and the crevice was not filled up with solder or cement. There was a complaint of a similar kind with regard to the back ventilating-pipe, and further complaints about the pipes in a water-closet on the same floor. Another contractor was then called in to alter and repair the house, and the plaintiff claimed the expenses thereby incurred and doctor's fees and other expenses. In cross-examination the plaintiff admitted that from time to time he had been within the nursery, when used as a lumber-room, between 1873 and 1876, but had never detected any bad smell or made any complaint. At the conclusion of the plaintiff's evidence, as it was necessary to go deeply into figures, and was in other respects more convenient, a formal verdict was taken for the plaintiff, and the matters in dispute were referred to a barrister, who was to be assisted by a surveyor, to be agreed upon by both parties.

MYCENÆ.

DEAR SIR,—In your admirable article in the *Builder* of January 26th ("Architecture at Mycenæ), you say regarding Mrs. Schliemann's Treasury,—"We miss any notice of sockets or bolts, or hinges, as either present or absent." But you find the holes for the upper door-hinges indicated p. 119; of the lower hinges there is no trace, and the threshold shows no signs that the piece containing the hinges might have been broken off. In the two uprights to the right and left there are no holes for the bolts.

Athens, Feb. 8, 1878. HY. SCHLIEMANN.

THE OBELISK.

SIR,—I think everybody will be disposed to acquiesce in your conclusion, on page 173, that "the best solution of the question practicable" is that now approved by the Metropolitan Board of Works. We may well be content that this is not likely to add another to the London public monument failures. The view when the obelisk hits the south-west angle of Somerset House promises to be something very charming, espe-especially when the westering sun is shining. May I state my difficulty as to the sphinxes which are to mount guard on the large piles of granite, once deemed necessary for giving emphasis to the steps down to the water? I trust your remarks as to the reduction of those playful erections may have good effect. They crowd upon the obelisk painfully, and introduce undesirable confusion, especially in some distant views. The monolith should be brought obviously down on to its supports; in other words, the plinths, &c., on which it will stand, or a good part of them, ought to be well seen in every general view. I am disposed to think that the reduction in mass should be accompanied by an alteration in form, so as to make the long sides parallel to the Embankment. It would seem a fine opportunity for a sculptor of genius to re-create, in granite in 1878, the old idea of the Egyptian sphynx,—not slavishly copying an ancient model, but taking a bold original course as a Greek would have done. But it may be doubted whether the effect of the pair, either looking out from, or looking in upon, the Embankment, would be quite happy. Should they not look up and down the stream? The eternal smile, on the Coptic head of the monster looking to the sea, would recall ancient Egypt; it might be possible to indicate that the Nile is symbolised by this watery figure. A vigorous English face might belong to the head looking up the Thames, for the English river has its duty towards the relic, which is to remain,—let us hope for long centuries,—erect on the bank, till, in fact, Time's tooth gnaws through the granite itself.

A.R.I.B.A.

GETTING A TRADE.

SIR,—In your last issue I was somewhat interested in the letter signed "Clerk of Works" on "Trade Matters," in which the writer says, "Several causes have combined to reduce the supply," and gives three reasons for the same. The third runs thus, "The false and foolish gentility that sends all the boys for clerks," &c., and to this I would take a slight exception from my own personal experience. I happen to be blessed with a large family, and one of my sons has just left school, and expressed a wish to learn the building trade. I accordingly made application to five firms with the result now given:—

A.	Premium £50.	
B.	,, 20.	No vacancy.
C.	,, 70.	
D.	,, 100.	
E.	No premium.	No vacancy.

Being but a clerk, the heavy premiums asked have prevented my being able to allow him to follow his bent. Tools, also, involve a heavy cost, and with a smaller wage than is given as a rule at first start in commercial life, it does not always follow that "false and foolish gentility" is the sole cause, but too frequently the lack of means to pay a premium.

NEMO.

Manchester.—The Children's Hospital (of which we gave a view and plan some four or five years ago) has been completed and opened. The total cost has been 36,000*l.*, or 200*l.* per bed. The hospital is all one story in height. Mr. Southern, of Salford, was the contractor for the eastern building, which was carried out from the designs of Messrs. Pennington & Bridgen.

ST. GEORGE THE MARTYR, BLOOMSBURY.

THE new boys' schools for this parish, of which an account was given at the time of the laying of the foundation-stone, at page 720 of last year's volume,—were opened with ceremony by Lord Henry Scott, M.P., on Friday, the 15th inst. In appearance the new buildings harmonise with the Girls' and Infant Schools on the opposite side of Gloucester-street, erected in 1864, from the designs of the late Mr. S. S. Teulon; and illustrated by view and plan in the *Builder* for 1864, page 793. The materials are the same, namely, stock bricks, Box-ground Bath stone, and blue slates, and there is a recurrence of the same simple details. The building just completed has been arranged to serve two special purpose. The school and class rooms will give desk accommodation for 200 boys. When required, the rooms will be the hall of the parish, in which social meetings, concerts, &c., will be held. The large room is 60 ft. by 34 ft. on the floor,—covered with a boarded and panelled hammer-beam roof (31 ft. total height), affording sitting-room for 350 persons. Residences of head and assistant masters, and caretaker, are placed in the tall building next Queen-square. Mr. John Wells was the builder. Messrs. Clarkson, of Great Ormond-street, architects, have designed and superintended these and the other buildings recently erected for this parish.

RACKING UP WAGES.

SIR,—I had occasion to leave the North of England to superintend some works in the South about three years ago. I was first attracted by the marvellously slow way the masons turned their work out, and took occasion to watch them at my leisure. I may say here they were paid 9½d. per hour; the foreman, a Londoner, 1s. per hour,—all society men, of course,—and the foreman, with the usual trade-unionistic energy about him, seemed sorry when the job was done; he had, in addition to lodgings, his railway fare paid weekly (a little over ten miles out), and told his employer it was usual for foremen to travel second-class.

In a very many cases I do not so much blame trade unions as lack of energy in some foremen. Personally, I was never in a trade union in my life, and have passed the grades of apprentice, journeyman, and foreman, and am now superintendent. To illustrate my meaning fully, and briefly, I will give two prices (I could give more) of cost of labour only.

Bull-nosing 4-in. flagging cost 10d. per foot linear, which I have done at 6½d.

York-stone work, I have noticed, has cost 11s. 6d. per cubic foot, which I have done for 5s. 6d. per foot.

One Yorkshireman will do on hard grit as much as two Londoners (if there be no Society to stop him), and quite as well (I do not in any way allude to quarry-work).

I heard, with some regret, the contractor lost money on his stonework. I am in possession of nearly the whole of the time these men worked, and the above prices I believe to be as near as possible. It is good work, as I could not superintend anything else. M. F. L.

CHURCH BUILDING NEWS.

Bodmin.—The parish church of St. Mary and St. Petrock, Bodmin, is now in course of restoration, under the direction of Mr. R. J. Withers, who, on examining the building, found that the roofs and the whole of the west end, a greater portion of the north aisle, and several of the columns and arches forming its arcade, would have to be taken down, and rebuilt. A great part of this work has been done by the local builders. The carved work is at present in the hands of Mr. Harry Hems, of Exeter, and for the first time in the history of the diocese, the arms of the See of Truro are being carved thereon. The main part of the present church was built in the fifteenth century, but portions of it belong to the twelfth. It is the largest church in the county, measuring 150 ft. from east to west, and 63 ft. from north to south. There is a nave, chancel, north and south aisles, and tower. Once there was a spire, but that was struck by lightning in the latter part of 1699, and utterly destroyed.

Chippenham.—On the 15th of January the parish church of Chippenham was re-opened, after restoration, at a cost of between 6,000*l.* and 7,000*l.* The architect by whom the works were carried out is Mr. R. Darley, of Chippenham, and the building contractors have been Messrs. Smith & Light, also of Chippenham.

Combpyne.—The restoration of the quaint little parish church of St. Mary, Combpyne, near Axminster, has been taken in hand, at the instance and at the cost of Sir Henry Peek, M.P., and the work is far advanced towards completion. Built principally in the Early English and Decorated styles, the church consists merely of nave, chancel, western tower, vestry, and porch. The exterior walls and windows have been repaired where needful, and the whole of the stonework repointed after the ancient fashion known as "snail-creep." The stone used throughout the dressings is Beer; so, too, is much of the walling, though flints are also plentifully introduced. The roofs have been re-covered with blue slates. Above the altar is a triple-light lancet window, which has been refilled with stained glass, from the studio of Messrs. Jones & Willis. A small lancet window on the south-west side of the chancel, deeply splayed into the wall, the existence of which was quite unknown until during the present restoration, has been filled with a representation of the Holy Virgin, the work of Messrs. Lavers, Barraud, & Westlake, of London. The works generally have been carried out from the designs of Messrs. Ernest George & Peto, architects, of London, and under the immediate supervision of their clerk of works, Mr. William Prosser. The carved work is by Mr. Harry Hems, of Exeter; and the general contract has nearly been brought to a termination by Messrs. Hutchins & Berry, builders, of Colyford, Devon.

Maidstone.—Mr. E. W. Stephens, architect, has prepared drawings for the proposed tower and spire, new chancel, and organ-chamber for St. Philip's Church, Maidstone. The tower and spire will be on the north side of the church, facing the centre of the Kingsley-road, and will rise to a height of 130 ft. from the pavement level, and taking the place of the present porch, will form one of the chief entrances to the church. Over the entrance will be ringing and belfry floors; on the north side of the tower a clock-face will be placed 55 ft. from the ground, and sufficiently large to be seen from a considerable distance, and the tower and spire, standing at one of the highest points of the town, will be a most commanding feature. The new chancel with its apsidal end will be 30 ft. long by 21 ft. wide, and 34 ft. high inside, roofed over with a groined roof of pitch pine, the feet of the ribs terminating on the carved caps of the Mansfield stone shafts rising from the pavement. The seating will be of pitch pine. It is proposed to erect a reredos round the five bays of the apse, composed of various coloured marbles, Caen stone, and a base of polished granite, the centre panel of pure statuary marble, and enriched with carved caps and cornice.

Worcester.—On the 1st inst. the Bishop of Worcester consecrated the new chapel built for the inmates of St. Oswald's Hospital, Worcester. The church is in the Geometrical Decorated style, and consists of a nave, 45 ft. by 19 ft.; chancel, 17 ft. by 16 ft. 6 in.; also small vestry. The entrance is from a porch at the west end of the south side into a small antechapel, which contains the whole of the mural tablets removed from the old chapel building. This is divided from the nave by an open screen, finished with a ridge of ornamental metal work, having a door in the same. The walls internally are finished with drab-coloured bricks, relieved by strings or bands of red and buff tiles, those around the chancel being appropriately intermixed with porcelain tiles, supplied by Messrs. Grainger, and the floors are laid with encaustic tiles. The nave has a high-pitched open-framed roof, and that to the chancel is boarded and finished with moulded mitred ribs. The sittings are of pitch pine, and of open-bench construction; the reading-stand is of similar material; the whole, together with the roof timbers, being varnished. The pulpit is of stone, sunk and moulded, and finished with pierced Gothic work. All external doors are of oak. The church is warmed by an apparatus supplied by Messrs. Haden & Son, of Trowbridge. The entire cost of the whole of the buildings and works is about 12,500*l.* The whole has been carried out under the direction and sole superintendence of Mr. H. Rowe, architect, Messrs. Collins & Cullis, of Tewkesbury, having been the contractors.

St. Keyne.—The well of St. Keyne, with its romantic tradition, made universally famous by Southey's poem, has caused the little Cornish parish from which it derives its name to become everywhere familiar. It may, therefore, be said that, on account of the well of St. Keyne, the restoration of the parish church of St. Keyne will excite a wide-spread interest. The *Cornish Telegraph* says that the Rev. T. L. Symes, when he took possession of the living, some seven years ago, found both church and rectory-house in a very dilapidated condition, and it says much for his energy that he has now so rebuilt and restored both of those buildings that they are in a very creditable and substantial condition. The church, which presents no very attractive feature, and which is singularly devoid of monumental records, occupies a very prominent position on the summit of an eminence. It is in the Early Perpendicular style, and consists of a chancel, nave, north aisle, south porch, and tower. With the exception of the tower and a portion of the north and east walls, the whole church has been rebuilt. A new bell has been added, and two others re-cast and re-hung; there are now five bells in all, in excellent condition, and of musical tone. The floors are laid with Worcestershire tiles. The architect was Mr. J. Piers St. Aubyn, and the contractor Mr. May, of Pool. The entire cost has been about 1,250*l.* The re-opening service has just been held.

DISSENTING CHURCH-BUILDING NEWS.

Downend.—The new Wesleyan Chapel at Downend is a building in the Gothic style of architecture, and will seat 350 worshippers, sixty of whom will have to sit in the end gallery on either side of the organ. The exterior walls of the building are of Pennant stone, with Westwood dressing, the roof being slate, with red tile crease. Inside, the walls are finished in stucco and jointed. The ceiling is boarded in hexagonal form, with arched principals resting on stone corbels, and moulded wall-plates, filled in between with white pine V-jointed boarding: the principals, purlines, &c., being of pitch pine. The traceried windows are filled with sea-green and clear cathedral glass. The pews are of yellow pine, sized and varnished, and the rostrum and communion-rails are of pitch and yellow pine, cut, moulded, chamfered, cusped, and slightly curved. The chapel is heated by two of Gurney's stoves, and lighted by three gas coronas, suspended from the principals of the roof, and also by wall brackets. The total cost of the building will be 2,100*l.*, of which about 750*l.* remains to be raised. Messrs. Bevan & Sons, of Bedminster, are the contractors, and Mr. W. H. Clark, of Bristol, is the architect.

Sparkbrook.—The memorial stone of a new Baptist Chapel, at Sparkbrook, Birmingham, has been laid. The body of the chapel is a parallelogram, 69 ft. by 49 ft. This will be divided into central nave, with an aisle on each side, by two rows of four cast-iron columns supporting an arcading of framed woodwork, and the arched timbering carrying an open roof, which will be 46 ft. high from floor to apex. There will be two side galleries and a large end gallery, the latter being carried back over the main entrances. The style of the buildings is Gothic, of an early type, modified to suit the materials used, viz., brick walls and Bath stone tracery pinnacles and copings, with moulded and ornamental brick and terra-cotta in constructive arches and decorative features. The designs of the architect (Mr. Hale) were selected in competition. The new building will seat 1,120. The works are being carried out by Messrs. Davies Brothers, whose estimate for chapel and caretaker's house, amounting to 6,352*l.*, was accepted.

SCHOOL BOARD SCHOOLS.

Whitehills.—New board schools at Whitehills, Banff, were opened on the 8th ult. Accommodation is afforded for 192 pupils. The main building fronts west, and the class-rooms are at the back at right angles. The school is to be conducted on the mixed system, and there are separate entrances, playgrounds, &c., for boys and girls. The buildings have freestone facings, and have been built mostly with stones quarried from the site of the school. The cost will be about 1,800*l.* Mr. Miller is the architect, and the contractors were:—For mason work, Messrs. Peterkin & Cheyne, Portessie; carpenter, Mr. Murdoch, Banff; slater, Mr. Walker, Banff; plasterer, Mr. Lyon, Whitehills; plumber, Mr. Duthie, Banff.

Liverpool.—New Board Schools, at the corner of Stanley-road and Latham-street, have just been completed. The buildings are of grey brick, with red stone dressings, and comprise, in the block fronting Latham-street, large school and class rooms for senior boys and girls, and upper and lower mixed schools, with house for caretaker attached; and in the other block, fronting Stanley-road, large infant school and class rooms, with rooms of similar size over, to be used at present as a covered playground for infants, but which will eventually be used as a

schoolroom. A swimming-bath is provided in the basement for the use of the senior children. [Good!] The classrooms are provided with movable partitions, which can be raised or lowered at pleasure by means of an apparatus, supplied by Messrs. Walker & Pendleton. The arrangements for warming have been carried out by Mr. Gibson, Harlow's hot-water system having been adopted. Ample playgrounds for the children have been provided, and laid with asphalte. The contract for the work was 11,339*l*. Mr. T. Urmson was the contractor; Mr. James Peers was clerk of the works; and Messrs. H. & A. P. Fry were the architects.

THE MASONS' STRIKE.

THE LATELY PROPOSED ARBITRATION.

On this subject a singularly-stupid paragraph appears in the paper called *Capital and Labour*, written with entire ignorance of the circumstances. When the proposition was first mooted, the employers, or their representatives, were quite ready to consider favourably a proposal to leave the question in dispute to arbitration, and even to accept as arbitrator a gentleman named. The representatives of the men, after several conferences, called a meeting of delegates, and, with an expression of thanks for the endeavour that had been made, declined arbitration. The matter was considered closed. Three or four weeks afterwards, however, the gentleman who had first moved in it (Mr. Godwin) received another communication from the men stating that the question had been placed before a general meeting of the masons; that they had declared themselves now willing to assent to arbitration, and asking him to renew his good offices. Mr. Godwin replied that he would willingly do what he could, but that he had every reason to fear the time had gone by, and that the masters then viewed the matter differently from what they had done. This proved to be the case, and the masters declined arbitration. If necessary,—and, judging from the ignorant sneer of *Capital and Labour*, and an erroneous statement in a daily paper on the part of the men, it probably will be,—the letters can be printed.

STAINED GLASS.

Fallowfield.—A large memorial window has been presented by the Misses Lucas to the Church of the Holy Innocents, Fallowfield. The window contains fifteen large medallions, illustrative of events in the lives of SS. Peter and Paul, relieved by smaller panels representing the twelve apostles and angels bearing the emblems of the keys and sword. The effect produced is striking. The whole has been designed and executed by Messrs. Lavers, Barraud, & Westlake.

Kensal Green.—A stained-glass window has just been inserted in St. Mary's Cemetery Chapel, Kensal Green. It is a single-light window, with the figure of St. Michael and Dragon, with canopy, and angel holding a scroll. The window is in memory of Mr. J. M'Cormack, and was executed by Mr. T. Cox.

Colchester.—A small stained-glass window has been erected in All Saints' Church, Stanway, to the memory of Mr. Dolby, the first incumbent of All Saints' Chapelry. The window was executed by Messrs. Cox & Sons, of London, and the subject is Our Saviour standing with arm upraised, underneath being the words, "I am the way, the truth, and the life."

Birchanger.—Messrs. Pitman & Cuthbertson have completed a memorial window for Birchanger Church, Essex, and it is about to be set up there.

Italy.—A new weekly periodical, having for its model the *Saturday Review*, was begun in Florence the first week of the year, initiated by two young Italians,—Leopoldo Franchetti and Sydney Sonnino,—to which a vast number of the principal literary men in Italy have promised to contribute. It consists of 16 pages of two columns each page of print, four of advertisements. Its objects, in the words of the programme to the first number, are "to open a field for the discussion and study of the principal political and social questions now in agitation in Italy; to keep the Italian public informed of the great scientific and literary questions of the day being advanced in other nations; and to co-operate towards the greater intellectual and moral unification of the nation."

Books Received.

Notes on the Churches of Kent. By the late Sir Stephen Glynne, Bart. With illustrations. London: John Murray. 1877.

This volume, as we learn from the preface, comprises only a small portion of the notes on churches in England and Wales which Sir Stephen Glynne was systematically engaged upon during the greater part of his life, a certain space of time in each year being devoted to it with the greatest regularity. The notes which were thus made included remarks and memoranda on no less than 5,530 churches; the present volume, comprising the churches of Kent, includes 312 edifices, all of a date prior to the Restoration. If we take this thick and well-filled volume as a sample of the whole work thus accomplished, it represents unquestionably a very unusual amount of systematic and careful labour on the subject by an amateur. The notes were commenced in 1829, and therefore in regard to some of the churches are out of date as a description of their actual state, since they have undergone so much repair and restoration, well or ill done, as to render the description inapplicable in many points now. But this fact, while it prevents the book from being a guide or handbook for the present day to some extent, in another respect perhaps gives it more value as a record of the state of such churches before the modern alterations.

The editor, or writer of the preface, "W. H. G.," extols Sir Stephen as a remarkably accurate and careful recorder of what he saw; observing, too, that from his large acquaintance with churches, and long habit of taking notes and studying them in this way, he read the history of a building with remarkable certainty and rapidity, and seldom troubled the special custodians of the building for any information. This we can very well believe: it is impossible for any man of sense and power of observation to undertake a study of that sort systematically without soon acquiring a very considerable insight into the meaning of facts. At the same time, the real value of the book, looking to the requirements and tastes of the present day, is limited. It is, in fact, rather like a remainder from the time when there was among architects and clerical connoisseurs alike a belief that to make notes and sketches of old churches was one of the highest ends of life, a virtue which was its own reward; and the result of these labours in the present case is published at a time when the vivid interest in such memoranda has somewhat failed. For this reason alone we should have some doubt of the book finding a large demand, apart from the fact that it is very dry in style, and rather resembles a catalogue of churches than a book about them. It is the kind of book which will, however, be in demand among those who wish for a well-stocked archæological library, as one item in such a collection, for reference; though its value would have been much increased by more illustrations, even at the expense of shortening the notes considerably. The descriptions of detail are not always in quite correct or precise architectural language.

On the whole, looking with every sympathy on the book as the painstaking work of an excellent man, bent on illustrating a subject in which he was greatly interested, we should say that the value of these notes has been a little (pardonably) exaggerated by those who have been concerned in publishing them since the author's death; and, that though they did well in publishing this selection from a certain portion of Sir Stephen Glynne's labours, as a specimen of what he had occupied so much of his life upon, it is doubtful whether it would be a wise policy to publish any more from the large mass of materials they have in their possession, or whether the notes have, either to the public or to the architectural student, a value quite commensurate with the expense of publication.

VARIORUM.

"Old and New London" has advanced into Camberwell, and says,—"Camberwell is now so truly part and parcel of the metropolis that it would be impossible to write an account of London south of the Thames without some notice of its past and present history. No one, we are told, can assert at what period the parish became an inhabited spot. Local antiquaries find pleasure in tracking the path of the Roman conquerors of Britain across the hills and valleys which surround the metropolis. Their legions, as we know, had various camps in the neighbourhood of Londinium, and it is not improbable that they formed one on the pretty hill, known in later days as Ladlands, or Primrose Hill, best reached from Camberwell by way of Dog-kennel Lane, in the southern part of the parish. It must have been a commanding position in those days, when the Thames at high tide expanded into a vast lake, reaching to the base of the rounded Surrey Hills, near which were marshes inhabited by bitterns, herons, and other waterfowl. Herne Hill, in this neighbourhood, by the way, is thought by some to have been originally Heron Hill, 'heron' being the old orthography. Coming down to times the history of which is more defined and authentic, we find Camberwell defined in Domesday-Book as a manor of some value. The name is written "Ca'brewelle,' and the adjoining manor, Peckham, is described as 'Pecheha.' In subsequent records we meet with 'Camerwell,' 'Cambwell,' and 'Kamwell.' Some etymologists trace the first portion of the name to the British *owm hir*, long valley; and suppose that the last syllable has reference to some springs of water, at one time famous. This may be the case, for there are, or were, mineral springs at Dulwich, Norwood (the Beulah Spa is memorable), and other places in the neighbourhood. It may be added that, as the parish church has been dedicated from Saxon times to St. Giles, the special patron of cripples, it has been suggested that there were certain springs in the neighbourhood possessing salutary virtues for persons so afflicted; and that as the old British word *cam* signifies 'crooked,' Camberwell may simply mean 'the well of the crooked.' Within the last century or so three ancient wells were discovered in a field in the parish, but they were covered in again by the owner of the land."—The *New Popular Educator* gives some advice as to sketching from nature:—"When we sit down to draw an out-door scene, the first questions that occur to us are: Does it compose well? Are the principal lines of the subject harmoniously arranged and connected with each other? Do any of the less important parts obtrude in such a way as to offend the eye with their masses and angles, to the detriment of other parts of greater consequence? These questions, and others of a like nature, will suggest themselves; and in the course of our experience we shall find out that we have the liberty, or licence, as it is termed, to modify the composition in such a way as to make it agreeable, without sacrificing the truthfulness of the whole. To apply these remarks, let us suppose we are about to draw a scene of which the view is limited; in other words, there is very little choice of position from which to take it. For instance, it might be a tower or ruin, having its most interesting part concealed by trees. The licence we speak of would permit that the position of the trees might be changed, or their branches directed another way; or they might be thinned or cut out so as to admit a view of the part we wish to preserve. Much of this may be done without in the least altering the character of the subject. We give this simply to supply an instance where the taste and judgment of the artist must be exercised. Some artists will even venture to remove trees and buildings to other situations altogether. It was the frequent practice of an eminent English landscape-painter to take great liberties with his subject in this respect. He would remove a large group of trees to the opposite side of a river, rather than they should interfere with the lines he wished to preserve; and especially if they were useful in their new position to give additional improvement to his picture. But a wholesale interference with the true portraiture of the landscape is dangerous without long previous experience; in youthful hands it may act prejudicially in the practical part of the work. It is only they who know well what they are about who can venture to such an extent as we have just mentioned."

Mahogany and the Threatened War.—It is stated that two firms alone have undertaken to supply the Royal Laboratory Department at Woolwich, on or before the 31st of March, with mahogany to the value of 41,000*l*. Mahogany is largely used in the Laboratory in the manufacture of ammunition-boxes and for similar purposes, being the most suitable material in many respects, especially in its power of withstanding variations of climate.

CASE UNDER METROPOLITAN BUILDING ACT.

BAD MATERIALS.

MR. JARVIS, the District Surveyor of Camberwell, summoned Mr. Lister, a builder, before the magistrate at the Lambeth Police-court on the 19th inst. for having built some houses in Waghorne-street, Peckham, with walls not properly bonded and solidly put together with mortar or cement.

Mr. Washington, solicitor, appeared for the district surveyor, and stated that this was a case where the builder persisted in using bad mortar, although repeatedly complaints of its inferior quality had been made by the district surveyor.

After the district surveyor had given evidence, and submitted specimens of the mortar taken from the walls,

A gentleman, who appeared for the builder, stated that he was authorised by him to agree on his behalf to amend the work complained of.

Upon this the Magistrate made an order for the builder to pull down the walls within twenty-one days.

Miscellanea.

Co-operative Hall and Stores, Radcliffe. A new block of buildings which has been erected by the Radcliffe & Pilkington Co-operative Society has lately been opened. The buildings are situated in the centre of the town, with a frontage to the principal street of 178 ft., and cover an area of 1,325 square yards. The whole is cellared throughout, the basement being used for storage; the ground-floor is occupied by shops for sale of groceries, drapery, boots and shoes, furniture, and meat. The first-floor is occupied entirely by storerooms, newsroom, library, offices, and workrooms. The second-floor over one portion of the building provides large work-rooms, as well as club-room, and an assembly-room capable of accommodating from 1,300 to 1,400 people. The room, which is about 104 ft. long, 45 ft. wide, and 31 ft. high, is entered by three separate staircases, two of these being fireproof. A tea-room, fitted up with every requisite for providing tea for 1,000 or 1,500, adjoins the assembly-room. The buildings, which will cost about 12,000*l.*, have been erected from designs prepared by Messrs. Maxwell & Tuke, of Bury. The contractors have been:—Masons, Messrs. Openshaw & Buckley; joiners' work, Mr. John Allen; plumbing, the late Mr. Wm. Brooks, all of Radcliffe; brickwork, Mr. J. Bleackley, Prestwich; plastering, painting, and decorating, Messrs. J. Lomax & Sons, Bury; heating, Messrs. B. Hoyle & Co., Manchester.

Growth of Crewe.—At the annual meeting of the Crewe Mechanics' Institute, last week, the President (Mr. F. W. Webb, the Chief Locomotive Superintendent of the London and North-Western Railway Company) brought forward a scheme for the enlargement of the institute,—which is, in fact, the Town-hall of the newly-incorporated borough,—an enlargement which has been rendered necessary by the rapid growth of the borough, the population of which has advanced from 15,000 to 25,000 during the past ten years. The hall, although considerably enlarged six years ago, is again too small for the requirements of the borough, and Mr. Webb now proposes to take in a considerable mass of the adjoining property, so as to add a large number of class-rooms and a lecture-theatre, in order to increase the efficiency of the classes now carried on under the Science and Art Department. The proposed alterations are estimated to cost from 6,000*l.* to 7,000*l.*, for the whole of which sum Crewe will be indebted to the generosity of the London and North-Western Railway Company. The town of Crewe is, as everybody knows, entirely the creation of the company, who have made it their great factory and entrepôt of locomotives and rolling stock. The company have no doubt good reason to believe that the outlay above mentioned will be well invested, inasmuch as it will go towards promoting the intelligence, and therefore, let us hope, the efficiency, of their workmen.

Widnes.—Efforts are now being made with the view of adding to the meagre church accommodation at Widnes. The existing church has only sittings for 450 people, and these are principally occupied by pew-holders, while there are computed to be about 2,000 church people in the town. Plans and schemes have been drawn up for the erection of a new church, and it is hoped that a site will be given. At the same time, a church is to be built for the parish of Farnworth, which will practically give to Widnes three churches.

Continuation of Chelsea Embankment.—At the last meeting of the Metropolitan Board of Works, Spring-gardens, a deputation presented a memorial on the subject of the Embankment of the Thames between Battersea Bridge and Cremorne. Mr. Lawrence urged that, instead of being a local improvement, it would be a great metropolitan one. Cremorne Gardens had ceased to exist, and it would be converted into building land. The freeholder, on being communicated with, offered, on the plan shown, to lay out two roads 50 ft. wide, coming out directly opposite the leading thoroughfares connected with the western parts of the metropolis, and so opening up the Embankment into these important districts. The building-ground comprised something like 38 acres. The proposed access to the Embankment would be one of those wide roads cutting diagonally across Cremorne Gardens, across the Fulham-road into Redcliffe-gardens, and further across that important part of the Old Brompton-road into Earl's Court and High-street, Kensington. The other road, 50 ft. wide, would come out at Gunter-grove, across into the Finborough-road, and away right into direct communication with the Uxbridge-road. Mr. Richardson asked if the Cremorne land had been purchased for building purposes. Mr. Lawrence said no one at present had purchased it, so far as they were aware. The matter was left open for the answer of the Metropolitan Board. Mr. Richardson pointed out that the land would be much increased in value by the Embankment. Would the freeholder contribute anything towards the improvement?

The Peabody Fund.—The thirteenth annual report of the trustees of the Peabody Donation Fund has been issued. The trustees announce that they have received a donation of 12,065*l.* towards the general purposes of the fund from an anonymous source. The amount of the fund at the close of the year 1876 was 643,316*l.* 19s. 11d. To this has been added the sum of 21,783*l.* 16s. 6d., the net income of the past year, and the donation above mentioned, thus making the total amount of the trusts on the 31st of December last 677,165*l.* 16s. 5d. The sum of 72,627*l.* 3s. 8d. has been spent in the purchase of freehold property and the erection of buildings. Of this sum 25,000*l.* were paid for the purchase of Rochester-buildings, Old Pye-street, Westminster, belonging to Mrs. William Gibbs, who sold the estate greatly below its original cost, as she felt that this undertaking of her late husband for the benefit of the poor would be better managed by the Peabody trustees than if she retained it in her own hands. The trustees have, up to the present time, provided accommodation for 2,341 families, or upwards of 10,000 persons. The average weekly earnings of the head of each family in residence at the end of the year was 1*l.* 4s. 6d., varying from 1*l.* 0s. 10d. at Shadwell, to 1*l.* 6s. 3d. at Southwark-street. The average rent of each dwelling is 4s. 2d. per week, which includes the free use of sculleries, laundries, and bath-rooms.

Street Improvements in Chester.—At the meeting of the Chester town council on the 13th inst., the report of a special committee appointed to consider the question of the widening of Northgate-street was presented. This question first engaged the attention of the council in 1874. Since then the opening of the Cheshire Lines Railway Station, and other increasing traffic, has made it necessary for the subject to receive greater attention, and various plans have been considered. The committee said they could recommend no scheme which did not provide a liberal widening of the street from the Cross to the Market-square, and had engaged Messrs. T. A. Lockwood (architect) and R. Roberts (surveyor), who had made a report upon the subject. The committee recommended one plan to be adopted. That plan made a uniform width of 70 ft. from the market to the cross, and would take away the present Church of St. Peter, with the exception of the tower, while the body of the church would be rebuilt on the other side of the tower. The cost of that scheme would be 56,121*l.*, exclusive of survey and legal charges; but 8,000*l.* already laid out for propping in the block to be cleared would have to be deducted from that amount. The council would exercise a control over the buildings to be erected, and the architecture would remain "in the Chester character."

New Railway.—The opening of the first section of the West Lancashire Railway took place on Tuesday. The line will, when completed, connect Preston and Southport.

Trade Conference.—A general conference of employers of labour and trade delegates from all parts of the kingdom was held at Bristol on Tuesday night, under the presidency of the Rev. Dr. Percival, the Principal of Clifton College. There was a large attendance in the Guildhall, which was lent by the mayor for the purpose, and among those present were Mr. S. Morley, M.P.; Mr. Macdonald, M.P.; and Mr. Halliday, the president of the South Wales Miners' Union. The proceedings opened with an address by the chairman, who expressed a hope that the conference would succeed in ascertaining the means by which the present depression of trade might be removed. Mr. Handel Cossham, a colliery owner, of West Gloucestershire, then delivered an elaborate address on the causes of the depression and the reduction in the value of labour. Mr. Macdonald, M.P., said that capitalists told them that the interests of capital and labour were mutual, but he could not see it. He expressed his approval of piece-work as far more honourable and honest for both parties, and defended the principle of a minimum wage. Mr. Hunt then read the report of the delegates who had gone to South Wales to inquire into the condition of miners. It showed that there was a great falling off in trade, and a very critical state of affairs. Mr. Abrahams (Swansea) moved, "That, in the opinion of this conference the establishment of a just and comprehensive system of conciliation for the settlement of disputes between employers and employed would tend to the benefit of both classes and of the nation at large." The resolution was carried unanimously.

Substitutes for Boxwood.—It appears that in consequence of the continued increased cost of boxwood and its rapid decrease in quality, one of the principal importers of this and other hard woods into this country has succeeded in introducing two American woods to be used instead of box in the manufacture of shuttles, a purpose for which immense quantities of boxwood have hitherto been used. The woods so substituted are those of the cornel and persimmon. The first is apparently the *Cornus florida*, a deciduous tree, about 30 ft. high, growing abundantly in woods in various parts of North America. The wood, though of small size, is hard, heavy, and close-grained, and is used chiefly in America for the handles of tools and for shuttle-making, and when properly seasoned, is much superior to Persian boxwood. The same may be said of the persimmon (*Diospyros virginiana*), a tree belonging to the ebony family, a native of the United States, where it grows to a height of from 50 ft. to 60 ft. and a diameter of 1 ft. or 18 in. The heartwood is of a dark brown colour and very hard. The trunk is covered with a very thick, hard, and rugged bark. One great point to be particularly remembered in the preparation of these woods for shuttle-making, is the very gradual drying by artificial means.—*Gardener's Magazine.*

"Social Notes concerning Social Reforms, Social Requirements, Social Progress."—This is the title of a new weekly publication which is about to appear, with Mr. S. C. Hall, F.S.A., as directing editor. The managing editor is Mr. W. Pepperell. The parties concerned say,—"With a view to bring opinions, resulting from earnest thought and large experience, as it were, into a focus, the publication entitled 'Social Notes' will be issued." In order to obtain a large circulation, the price of the work will be 1d.; 5,000 copies will be transmitted, weekly or monthly (gratuitously, through the post), to social institutions, charity societies, hospitals, literary and scientific institutions, free libraries, mechanics' institutes, workmen's reading clubs, official magistrates, clergy of the Church of England, Nonconforming clergy, and other public bodies and institutions interested in the subjects considered and discussed. We may be sure, with Mr. S. C. Hall's name to it, that the intention is thoroughly good.

The State of the Building Trade.—A deputation representing the Amalgamated Society of Carpenters and Joiners had a conference a few days ago with the members of the Master Builders' Association. The deputation asked for an increase in the rate of wages and a reduction of the working hours. The Masters' Association came to the following resolution, which was handed to the deputation:—

"That the present time is inopportune for a rise in wages or for diminishing the hours of labour; and further, if the carpenters found the time for commencing work inconvenient, an alteration might be made by the men commencing work at 6.30 instead of 6 a.m., and leaving off at 5.30 instead of at 5 p.m."

St. Helen's, Bishopsgate.—The Lord Mayor, attending in state, has unveiled a new stained-glass window, in commemoration of the many civic and other worthies buried in the church. To meet the cost of the window, which was executed by Mr. A. Gibbs, the Grocers', Skinners', Haberdashers', Drapers', and Mercers' Companies, the Marquis of Northampton, and Miss Cottrell Dormer, had generously contributed, but there was still a deficiency of about 250l. The Lord Mayor unveiled the window, and in a brief speech expressed the pleasure it gave him, especially as alderman of the ward of Bishopsgate, to take part in further beautifying a church of which all citizens were so justly proud. He congratulated his chaplain, Dr. Cox, on the success of his labours, and promised his aid in removing the debt in connexion with the work.

TENDERS

For new cocoa-mills, &c., Holland-street, Blackfriars, for Messrs. James Epps & Co. Mr. Edwin T. Hall, architect. Quantities by Mr. Thomas M. Deacon:—

Colls & Sons	£31,777 0 0
Jarrett	31,300 0 0
Clarke & Bracey	31,245 0 0
McLachlan & Sons	31,050 0 0
Holland & Hannen	30,690 0 0
Perkins	29,873 0 0
Howard & Co.	29,605 0 0
Joselyne	29,490 0 0
Downs & Co.	29,390 0 0
Browne & Robinson	29,380 0 0
Bangs & Co. (accepted)	28,883 0 0

For the erection of new church and parish-room, St. Antholin's, Stepney. Mr. E. Christian, architect. Quantities by Mr. Goodman:—

Colls & Son	£9,350 0 0
Patman & Fotheringham	9,225 0 0
Dove Bros.	8,930 0 0
Tyerman	8,843 0 0
Ennor	8,520 0 0
Brass	8,218 0 0
Downs & Co.	8,180 0 0
Shaw	7,640 0 0

For works at Broad-street, Bloomsbury, for Lord Hanmer. Mr. F. Beeston, architect:—
Downs & Co. (accepted).

For alterations and additions to stables, Nos. 7, 8, and 9, Carlton-mews, Carlton-road, Kilburn, for Mr. Edward Goddard. Mr. Wm. Eversden, surveyor:—

Langridge	£540 0 0
French	478 0 0
Whiteman	425 0 0
Dale (accepted)	394 0 0

For alterations to the Rose and Crown, Spicer-street, Spitalfields, for Mr. H. Morley. Mr. Edward Brown, architect:—

Marr (accepted)	£450 0 0

For alterations to the Royal Oak, Columbia-street, Bethnal-green, for Mr. B. Hyams. Mr. Edward Brown, architect:—

Stamp & Bowtle	£463 0 0
Marr	390 0 0
Royal (accepted)	362 0 0

For sanitary, ventilating, and decorative works, at 32, Belsize-park, Hampstead, for Mr. John F. Huggins. Mr. John Pugh, architect. Quantities not supplied:—

Larter & Son	£468 10 0
Whiteley	457 18 9
Norman	422 6 9

For the erection of Jewin Welsh Chapel, Bridgwater-gardens. Mr. Charles Bell, architect. Quantities by Mr. Henry Lovegrove:—

		Extra for Portland stone.
Crabb	£5,500	£400
Richards	5,490	360
Ashby Brothers	5,394	700
Woodward	5,330	—
Hobson	6,216	245
Braid	5,062	420
Tarrant	5,052	299
Nightingale	4,983	310
Brass	4,856	196
Browne & Robinson*	4,780	185

* Accepted.

For the erection of Board school, Framwellgate, Durham. Mr. C. Hodgson Fowler, architect. Quantities by Mr. Geo. D. Irwin:—

Caldcleugh	£2,480 0 0
Dixon	2,173 0 0
Wardroper & Son	2,150 0 0
Sanderson	2,142 0 0
Elliot	2,147 0 0
Gradon & Son	2,096 0 0
Ainsley & Mowbray	2,080 0 0
Robson & Tremble	2,070 0 0
Taylor	2,053 0 0
Gardener	1,988 0 0
Pratt	1,942 0 0
Hurst & White	1,859 0 0

For St. Bartholomew's Church, Chichester. Mr. H. E. Rumble, architect:—
Puzey (accepted).

For additions to dwelling-house and new warehouse on the canal, Salisbury, for Messrs. Watson & Godden. Mr. Fred Bath, architect. Quantities supplied:—

Plowman	£945 10 0
Williams	944 0 0
Curtis, Sons, & Mist	890 0 0
Young & Sons	884 0 0
G. Harris	877 10 0
Tryhorn	855 0 0
Barber	785 0 0
Cooper	757 0 0
Sawkins (accepted)	747 0 0
A. Harris (withdrawn)	630 0 0

For alterations of shops in the Grove, Stratford. Quantities by Messrs. R. L. Curtis & Sons:—

Martin	£1,367 0 0
North Brothers	1,260 0 0
Reed	1,250 0 0
Hoskins	1,225 0 0
Norton	1,117 0 0

For chambers at the corner of Savoy-street, Strand, for Mr. G. Rees. Messrs. A. & C. Harston, architects. Second competition. Quantities by Mr. C. Poland:—

Stephenson	£13,905 0 0
Woodward	12,427 0 0
Killby	12,226 0 0
Sheffield & Prebble (accepted)	11,479 0 0

For sanitary and other fittings, cold-water pipes and fittings, hot-water boilers, pipes, and fittings, steam warming, &c., at the School for Imbecile Children, Darenth, Kent. Messrs. A. & C. Harston, architects:—

Jeakes & Co.	£8,824 0 0
Smeaton & Son	8,034 0 0
Smeaton & Co.	7,874 0 0
May Brothers	7,578 0 0
Rosser & Russell	7,323 0 0
Smith, Son, & Co.	7,231 0 0
Millar & Son	6,125 0 0
Pontifex & Wood (accepted)	6,000 0 0

For steam boilers, engineering, and pumping machinery, for the School for Imbecile Children, Darenth, Kent, belonging to the Managers of the Metropolitan Asylum District. Messrs. A. & C. Harston, architects:—

Hall & Co.	£4,975 0 0
Horn	4,375 0 0
Simpson & Co.	3,990 0 0
Owens	3,406 0 0
Fraser Brothers	3,265 0 0
Pratchitt Brothers	3,239 0 0
Hunter & English	3,180 0 0
Eastons & Anderson	3,170 0 0
May Brothers	2,950 0 0
Pontifex & Wood (accepted)	2,388 0 0

For additional boiler and increased power of pumping machinery, to serve second asylum, Darenth, Kent:—

Pontifex & Wood (accepted)	£825 0 0

For the erection of Cottages, Shaftesbury-road, Romford, Essex. Mr. Geo. Sparrow Harrison, architect:—

Black (accepted)	£1,015 0 0

For plasterer's work at two pair of semi-detached villa residences, situated in Cornwallis Park, Hastings, for Messrs. Brown & Co. Messrs. Cross & Wells, architects:—

Smith & Co.	£2,240 0 0
Tapp	1,562 0 0
Manser	1,545 0 0
Abbott	1,502 0 0
Geary	1,311 0 0

For alterations to Messrs. S. Smith & Co.'s banking premises, Market-place, Mansfield. Mr. Geo. R. Isborn, architect:—

Fisher Brothers	£350 0 0
Dennett & Co. (accepted)	276 0 0

For new front and enlargement of premises in rear of 79, Brompton-road. Mr. G. Edwards, architect:—

Hockley	£1,458 0 0
Saunders	1,369 0 0
Richardson	1,333 0 0
Hall	1,275 0 0
Mathews	1,192 0 0
Wilkins	1,154 0 0
Stimpson & Co. (accepted)	1,117 0 0

For Hastings and St. Leonards-on-Sea Baths and Aquarium. Messrs. Cross, Jeffery, Skiller, & Wells, architects:—

Dressing-boxes, &c., to Gentlemen's Swimming-bath.

Wood	£712 6 0
Howell & Son	688 0 0
Geary	685 0 0
Vidler	680 0 0
Reeve	675 0 0
Harman	657 0 0
Rodda	653 0 0

Chimney-shaft, &c.

Reeve	545 0 0
Buller	534 0 0

Iron Skylights.

Dawnay	659 0 0

For Winter Garden, Torquay. Messrs. Watson & Harvey, architects. Quantities by Mr. H. Smith:—

General Building Works.

Bovey	£7,700 0 0
Goss	7,600 0 0

Ironwork.

Pollyblank	7,150 0 0
Rosser & Russell	6,981 0 0
Stark & Co.	6,500 0 0
Edmonds & Co.	5,490 0 0
Young & Co.	5,250 0 0
Handyside & Co.	4,832 0 0
Shewell & Co.	4,722 0 0
The Horseley Company	4,583 12 5
Dawnay	4,576 0 0
Stacey, Davis, & Co.	4,547 1 9
Jukes, Coulson, Stokes, & Co.	4,418 0 0
Tildesley	4,278 0 0

Glazing.

Lovell & Co.	1,313 0 0
Edmonds	1,180 0 0
Thomas	1,149 17 4
Young & Co.	985 0 0

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